GOVDOC
BRA
3920

BOSTON PUBLIC LIBRARY
3 9999 06584 153 6

BEACON HILL

NEIGHBORHOOD TRANSPORTATION PLANNING STUDY

BOSTON
PUBLIC
LIBRARY

City Of Boston	Raymond L. Flynn, Mayor
Boston Traffic and Parking Department	Lisa G. Chapnick, Commissioner
February	1985

Digitized by the Internet Archive
in 2011 with funding from
Boston Public Library

http://www.archive.org/details/beaconhillneighb00bost

BOSTON
PUBLIC
LIBRARY

TABLE OF CONTENTS

Chapter I - Background

- A. INTRODUCTION
- B. STUDY AREA
  - 1. Location
  - 2. History
  - 3. Demographics
  - 4. Land Use
  - 5. Related Land Use Changes
  - 6. Transportation Facilities

Chapter II - DEFINITION OF PROBLEMS

- A. BACKGROUND INVESTIGATION
  - 1. Existing Conditions
  - 2. Traffic Data
  - 3. Field Reconnaisance
  - 4. Individual Opinions

- B. SUMMARY OF TRAFFIC PROBLEMS
  - 1. Charles Street Oneway Operation
    - a. Charles St./Beacon St. Intersection
    - b. Charles Circle
    - c. Beacon Street to Charles Circle
  - 2. Traffic Circulation
    - a. Through Traffic Over the Hill
    - b. Access and Egress
    - c. Circulation within the Hill
  - 3. Other Traffic Concerns
    - a. Trucks
    - b. Parking
    - c. Signs/Pavement Markings

- C. SUMMARY OF STREETSCAPE PROBLEMS

CHAPTER III - DISCUSSION OF TRAFFIC PROBLEMS

- A. CHARLES STREET OPERATION
  - 1. Charles St./Beacon St. Intersection
  - 2. Charles Circle
  - 3. Beacon Street to Charles Circle

- B. CIRCULATION ALTERNATIVES
  - 1. Through Traffic Movements
  - 2. Access and Egress
  - 3. Circulation Within the Hill

C. OTHER CIRUCLATION MATTERS
  1. Trucks
  2. Parking
  3. Signs/Pavement Markings

CHAPTER IV - DISCUSSION OF STREETSCAPE PROBLEMS

A. DISCUSSION

B. EXAMPLES

CHAPTER V - RECOMMENDATIONS

A. IMMEDIATE

B. INTERMEDIATE

C. LONG RANGE

APPENDICES

* Appendix A - Existing Conditions

* Appendix B - Traffic Data

* Appendix C - Questionnaires

* Appendix D - Charles Street Alternatives

CHAPTER I

BACKGROUND

CHAPTER I

BACKGROUND

A. INTRODUCTION

For many years, traffic congestion and circulation problems in the Beacon Hill area have been of concern to residents, merchants and City officials. In an attempt to solve these traffic circulation problems and to provide better City services to the Beacon Hill neighborhood, the Traffic and Parking Department of the City of Boston has undertaken this Beacon Hill Transportation Study.

A Working Committee was established which included representatives from the Beacon Hill Business Association and the Beacon Hill Civic Association, staff from the Traffic and Parking Department and staff from the Boston Redevelopment Authority. Meetings occured through the summer and early fall of 1984. A substantial amount of technical data was gathered and analyzed, augmented by additional inputs from questionnaires distributed to merchants and residents. Alternative ideas were discussed and a series of recommendations formulated. After the Working Committee had developed possibilities for solutions for the various problems which had been found, a public meeting was held to inform the neighborhood of the study and to obtain comments and reactions.

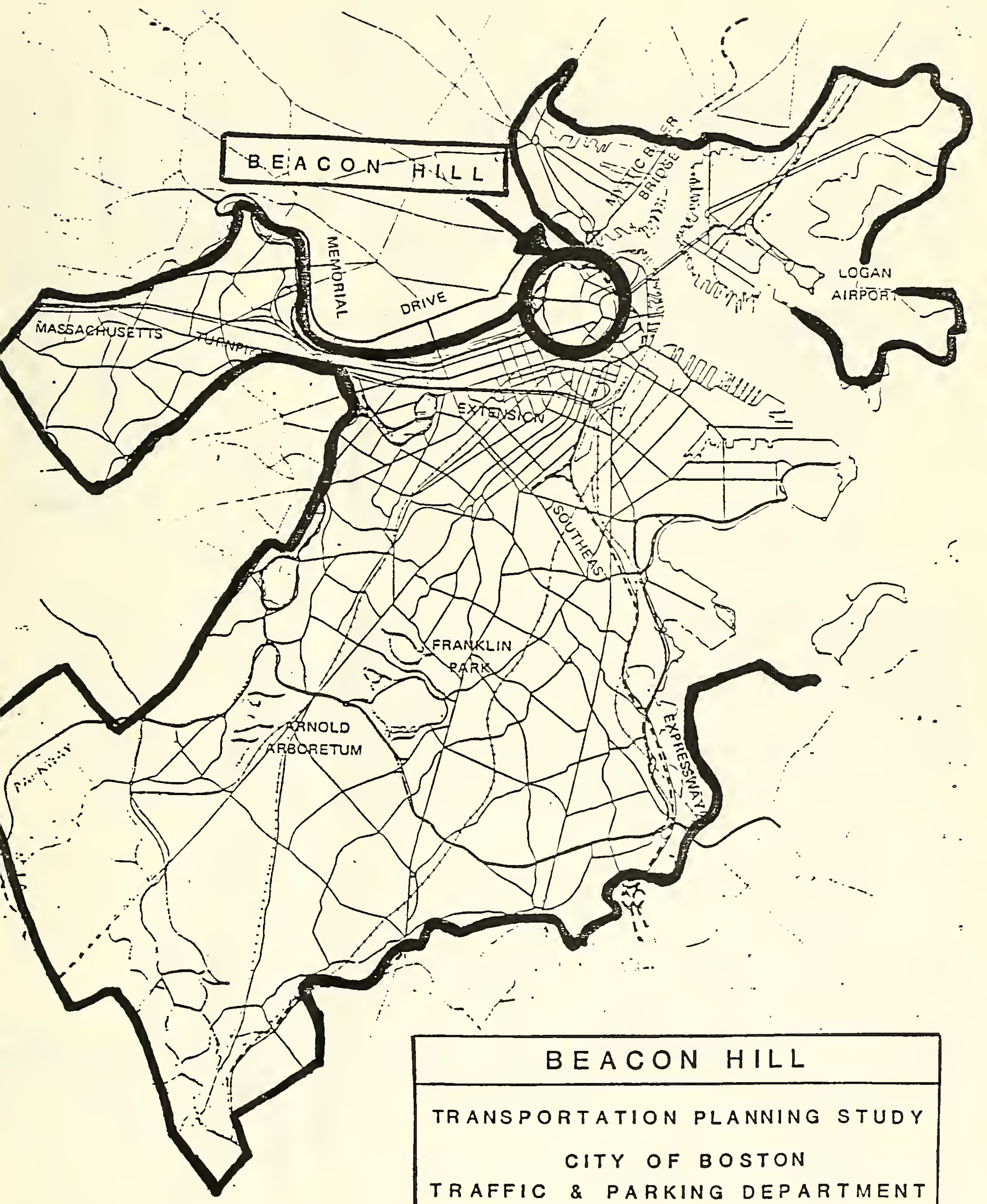
This Report is a summary of this Transportation Study. It contains much of the data relating to existing conditions and discussions of the several parts of this Study. Recommendations are both short range and long range in nature.

B. STUDY AREA:

1. Location

Figure 1 shows the location of Beacon Hill relative to the City of Boston. The area included in the study is shown in greater detail in Figure 2, and is located within the following boundries:

- on the north, Cambridge Street
- on the south, Beacon Street
- on the east, Bowdoin Street
- on the west, Embankment Road

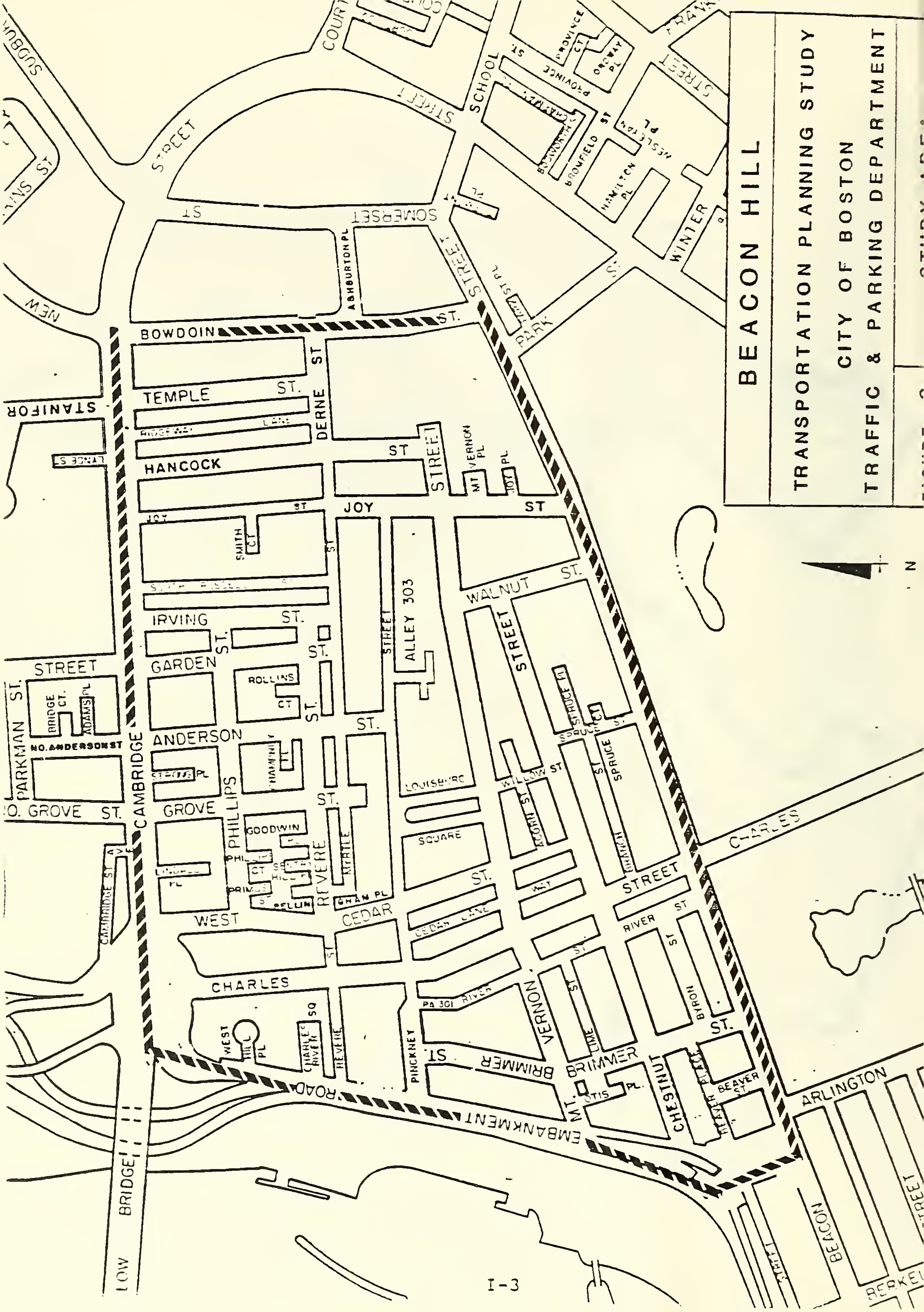


BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE 1 LOCATION MAP



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

2. History

Beacon Hill, that area of the City of Boston bounded on the west by the Charles River, the north by Cambridge Street, the east by Bowdoin Street and the south by Beacon Street, was originally known as Trimountain. Development was made possible by cutting down its three peaks and landfilling the shore of the Charles and the harbor. The Hill takes its name from its central peak where once stood a warning beacon to protect the Colony from Indians and foreign invaders.

In 1922, the Beacon Hill Civic Association was formed, rallying strong community feeling for the Hill. It succeeded in securing zoning protection and restricting encroachment.

The Beacon Hill Historic District, established in 1955, provided a mechanism for exerting architectural controls over developments in the Beacon Hill area. The Historic District now includes lower Beacon Hill, Beacon and Park Street frontages up to and including the Granary Burial Ground, and Bowdoin Street, and extends to within forty feet of Cambridge Street.

The Beacon Hill Business Association, formerly the Charles Street Merchants' Association, was established in the early 1950's. It is made up of business people located not only on Charles Street and Cambridge Street but also throughout the Hill. Its purpose is to further the interests of the businesses in the community by communicating and co-ordinating activities among businesspeople, residents and government. Membership is open to anyone conducting a business on Beacon Hill as well as to any landlord who owns a business property on the Hill.

3. Demographics

The population of Beacon Hill in 1980 was about 9100, down about 2% from 1970. The median family income was approximately $30,000, among the highest of Boston's neighborhoods. Of the total Beacon Hill population, less than 2,500 residents have lived there five years or more, indicating high mobility. Almost 1000 residences were owner-occupied in 1980, double the 1970 census figures. Rental units decreased from 4,938 in 1970 to 4,260 in 1980.

The 1980 census date indicates the Beacon Hill residents own 3333 motor vehicles. During the calendar year of 1984, 3329 resident parking stickers were issued to Beacon Hill residents. However, of the 5700 residents who are employed outside of their homes (63% of the total population) less than 30% drive to work or participate in a car pool. Over 50% of these residents walk to work and another 30% use public transportation.

4. Land Use

Beacon Hill is a unique combination of residential, office, retail and institutional land uses. Retail uses predominate along the length of Charles Street and along the Cambridge Street frontage. Most of the Beacon Street frontage is occupied by office and institutional related uses. The easterly end at the top of the hill features occupants with either governmental or educational orientation. The majority of the remainder of the buildings on Beacon Hill are residential.

5. Related Land Use Changes

During the past several years, many land use changes have taken place in the vicinity, which have affected Beacon Hill. A considerable amount of new construction has been completed, including major residential complexes, high-rise office buildings and extensive retail expansion. These activities have affected both the quantity and the pattern of traffic in the area, to the point where it is difficult to assess the affects of any single item. Even greater changes will result from some of the activities currently underway or anticipated in the next few years.

The downtown Boston area has experienced much residential growth in the past few years with the completion of complexes such as Charles River Park, Lafayette Plaza, Devonshire Place, several waterfront conversions, and widespread upgrading of residences in the South End, South Cove, Back Bay and Beacon Hill itself. Between 1976 and 1984, more than 3 million square feet of new office space was constructed in central Boston. Almost 7 million square feet of existing office space was rehabilitated and converted to Class A quality. Retail developments such as Downtown Crossing, Quincy Market and Copley Place have recently come on the market. Several major developments are nearing completion, such as the Park Plaza complex, the new Federal Building at North Station and the South Station Project. In addition, considerable new development has been completed or is under construction across the river in the Kendall Square section of Cambridge.

At the present time, at least 10 new major developments have been approved for downtown Boston. These projects will result in the addition of about 6.5 million square feet of new construction, about 20% of which will be residential. It is anticipated that most of this space will be ready for occupancy by 1987.

6. Transportation Facilities

Beacon Hill is surrounded by major transportation facilities. Beacon Street is a major east-west arterial, running from the western suburbs through Back Bay and into the Central Business District (CBD). Cambridge Street is another major arterial roadway, running from Cambridge into the CBD. Storrow Drive and Embankment Road on the west are parts of the MDC Parkway System, and function as major highway routes to and around the Boston Downtown area.

Public transportation serves Beacon Hill via the Red Line at Charles Circle and at Park Street, the Green Line at three stations (Government Center, Park Street and Arlington Street) and the Blue Line at Bowdoin and at Government Center stations. Commuter trains to the North Shore suburbs terminate at North Station.

The Massachusetts Turnpike access points are at Copley Square and at Arlington Street, and the Southeast Expressway is easily accessible to the area. I-93 and the Mystic Tobin Bridge are conveniently located, and both Storrow Drive and Memorial Drive offer major parkway connections.

Currently under design are major modifications in the roadway system in the City Square area at Charlestown and reconstruction of the Harvard Bridge carrying Massachusetts Avenue over the river. Extensive reconstruction under consideration for the Central Artery and cross-harbor facilities would influence traffic services to this area in many ways. Current construction of the Southwest Corridor Project and reconstruction of the Southeast Expressway are somewhat external to this area, but directly affect access and egress patterns in this vicinity.

Train service, formerly available at Back Bay Station, will be restored in the near future. This service will include both commuter trains and passenger service to points south. Completion of the South Station Project will allow full relocation of all over-the-road bus operations.

CHAPTER II

DEFINITION OF PROBLEMS

CHAPTER II

DEFINITION OF PROBLEMS

In order to be able to discuss the possible alternative solutions of any problem, it is necessary to define the problem so that it is clear to all concerned. It is imperative that a process be followed which includes an investigation of the background facts, a statement of the matters to be addressed, and an evaluation of the various alternatives for the solution or mitigation of the stated problems.

In the case of Beacon Hill, the complexity and interactions of the many facets of the traffic circulation system made it essential to follow this procedure. This section of the Report outlines the background investigation and summarizes the problems which this investigation indicated should be addressed. The evaluation of these matters is the subject of a separate section of the report.

A. BACKGROUND INVESTIGATION

The development of an adequate background for discussion involves several parallel and interrelated activities. An inventory of existing conditions was prepared, traffic data - primarily traffic volumes - were assembled and gathered, a considerable amount of field reconnaisance was conducted to understand actual operating conditions, and the opinions and thoughts of many individuals were sought by means of direct conversations, questionnaires and public meetings.

1. Existing Conditions

The first steps in a study of transportation patterns in an area are the determination of existing conditions and an inventory of available information. These items have been collected and are summarized in Appendix A of this report. The compilation includes information on the following:

- Street Widths
- Oneway Streets
- STOP Signs
- Traffic Control Signals
- Tow Zones
- Parking Meters
- Snow Emergency Arteries
- Loading Zones and Taxi Stands

2. Traffic Data

Traffic data collected for use as background for the discussions of problem areas are included in Appendix B. The items presented are primarily traffic volume counts, presented for comparisons of traffic levels. Some of this data was obtained from the files of City and State agencies, some from previous reports and some were collected by personnel of the Boston Traffic and Parking Department for this study. It should be noted that the data information is intended to be a guide to the discussions and are not adjusted for the many variables required for full statistical accuracy.

3. Field Reconnaisance

A significant amount of time was spent by staff persons assigned to this Study and by the members of the Working Committee observing actual traffic operations. Even though the persons involved were already quite familiar with the operating conditions, the major purpose of these field visits was to be able to better define the problems and to evaluate potential alternative solutions. An effort was made to understand the problems faced by drivers, pedestrians, residents, merchants, visitors and the many other users of Beacon Hill. Activities were observed during daylight and nighttime hours, during peak traffic hours and off-peak hours, and during various weather conditions.

4. Individual Opinions

Reactions to traffic matters vary considerably according to the point of view of individuals. It is not always possible to implement everything that everyone would like. As a result, there must be a great deal of effort made to understand the effects of various proposals, the real desires and needs of the area, and the many underlying aspects of the residents and frequent users of an area. In the preparation of this report, four primary means of determining desires, needs and reactions were employed:

a. Frequent formal meetings with the Working Committee.

b. Many one-on-one conversations in person and by phone.

c. Questionnaires.

d. Public Information Meeting.

B. SUMMARY OF TRAFFIC PROBLEMS

The problems related to transportation in the Beacon Hill area are extremely varied. The order in which the matters are presented here do not necessarily indicate priorities but rather a logical order for discussion of alternatives and implementation potential. It is the intent that these statements be objective, but it is sometimes necessary to indicate the potential alternatives to adequately describe the dimensions of the matter.

1. Charles Street Oneway Operation

For many years, Charles Street operated oneway in a northbound direction for its entire length. In 1982, the Traffic and Parking Department reversed the direction of that portion of the street from Charles Circle to Beacon Street, to operate in a southbound direction. Although some prior discussion had occurred, the reversal took place literally overnight, with no adequate advance warning to residents, merchants or the driving public. Reaction to the change has been varied, but the basic problem to be resolved is whether the direction of the street should remain as it is now, or be changed.

a. Charles Street/Beacon Street Intersection

Shortly after the direction of traffic flow on Charles Street was implemented, an island was constructed within the intersection at Beacon Street to channelize traffic at that location. The island added fuel to the controversey over the direction of the street operation, and completion of the island has been held up pending resolution of the oneway issue. The fact is that the unfinished condition of the island surface is both a physical hazard and an aesthetic eyesore. The problem to be resolved is whether the island should be physically revised and when and how it should be completed.

This intersection also requires attention with respect to pavement markings, signing, parking regulations, pedestrian movements, etc. The problems to be resolved is number and width of lanes, types of signs and pavement markings, and potential revision of existing regulation.

b. Charles Circle

The reversal of Charles Street has had profound affects on the operation of Charles Circle. The MDC, which has jurisdiction, is considering improvements but wants some indication as to the final resolution of the controversey over the direction of traffic flow on Charles Street. In addition, there is much concern over the appearance of this end of the street, especially if the direction of the traffic flow is retained. The problem is, given a resolution of the direction of Charles Street traffic, how should this end of Charles Street be treated.

c. Beacon Street to Charles Circle

Charles Street is a commercial street in a residential neighborhood. Its function in the street system has been dramatically changed by the revised oneway operation. Related problems such as loading and circulation opportunities have come into focus, along with attention to pedestrian facilities and other streets and amenities. The problem is to identify and prioritize these operational and physical consensus.

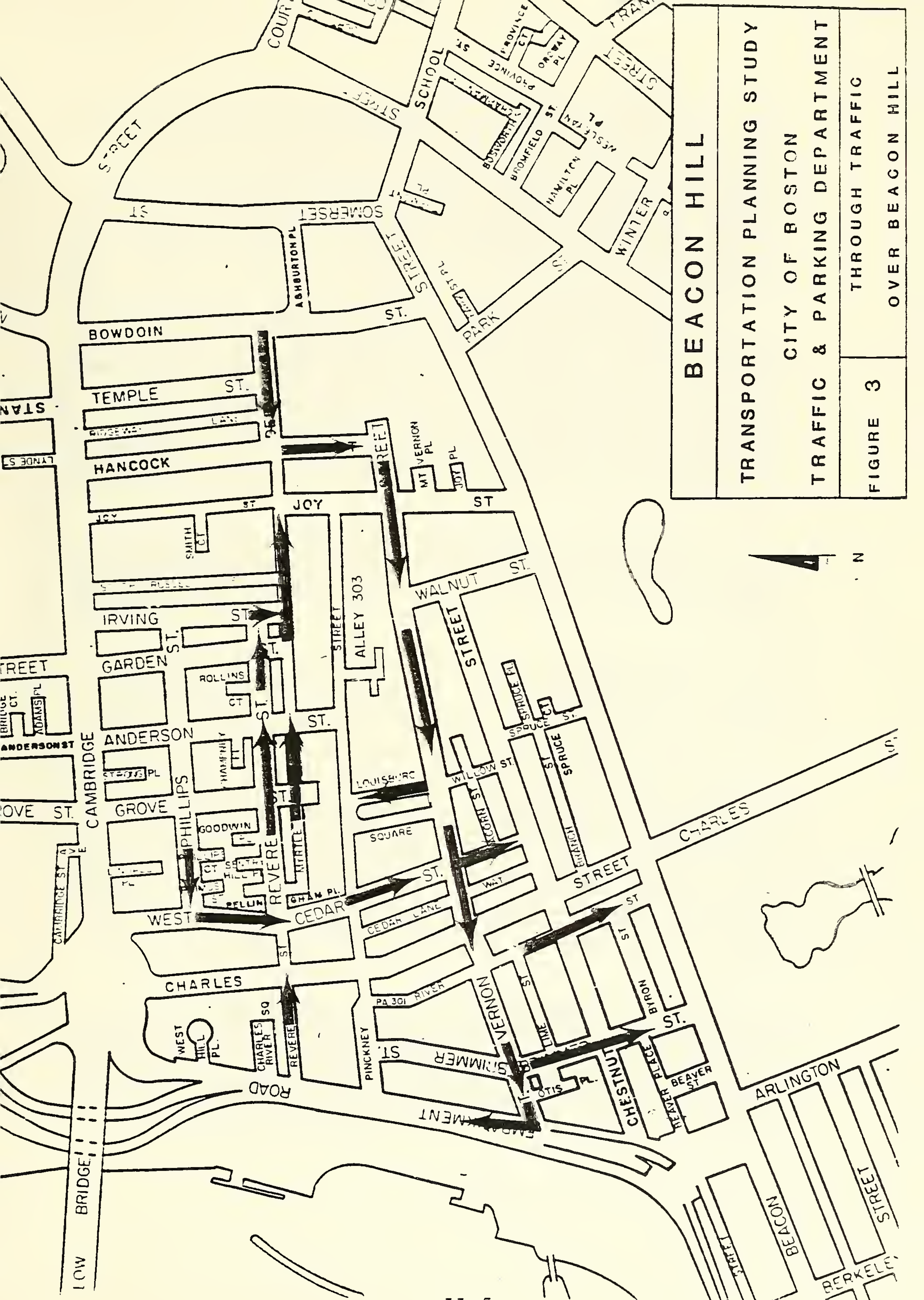
2. Traffic Circulation

a. Through Traffic Over the Hill

With the elimination of much of of the congestion in the Charles Street area, attention has been focused on other through movements in the area. The two most heavily travelled routes are Revere Street and Mt. Vernon Street, but several other streets are also impacted by existing through traffic as described below. These routes are shown in Figure 3, and are described below. The problem is, how to reduce the volume of through traffic on local streets.

1. Revere Street - A considerable number of vehicles turn off Storrow Drive and onto Revere Street in order to drive up and across the Hill and avoid Cambridge Street. Traffic counts indicate that roughly 3,000 vehicles use this turn each day, with peak hour usage of approximately 300 vehicles per hour. At Charles Street, approximately two-thirds of these vehicles continue straight on Revere Street toward the top of the Hill, while the remaining one-third turn right on Charles Street.

2. Mt. Vernon Street - Traffic circulating around the State House uses Mt. Vernon Street to by-pass Beacon Street, and to avoid the signals at Beacon and Joy, and at Beacon and Charles. A substantial volume of traffic continues to Embankment Road and Storrow Drive, to avoid the signals at Beacon and Arlington. Traffic counts indicate about 1000 cars per day using this route to Beacon Street and about 800 cars per day using it to Storrow Drive.



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE 3

THROUGH TRAFFIC OVER BEACON HILL

3. Brimmer Street - One popular route for cars leaving the State House area is to come down Mt. Vernon Street and then take Brimmer Street out to Beacon Street, thereby avoiding the congestion on Beacon Street as long as possible. In addition, traffic on Charles Street often turns on Pinckney Street or Mt. Vernon Street and then on Brimmer Street to avoid the stoplights and congestion of Charles and Beacon Streets. The total volume of 1400 cars per day on Brimmer Street near Beacon Street reflects these movements.

4. River Street - River Street is often used by vehicles exiting Beacon Hill in the same way that Brimmer Street is used. The offset intersection at Mt. Vernon and River Streets constitutes a serious hazard to traffic movements, particularly the left turn into River Street. In addition, the intersection of River and Chestnut Streets is dangerous because the vision of drivers on River Street is blocked when approaching Chestnut Street, and therefore vehicles on River Street often do not stop before entering the intersection.

5. West Cedar Street/Phillips Street - In order to avoid Charles Circle and the lights on Charles Street, many vehicles approaching the Circle on Cambridge Street instead access Phillips Street and cross the Hill using West Cedar Street.

6. Louisburg Square - Traffic on the upper part of Mt. Vernon Street often wants to be able to access Pinckney Street. Presently, the only way to do this (without going down to Embankment Road) is to cut across Louisburg Square.

b. Access and Egress

Access into Beacon Hill from the Beacon Street side can only be accomplished by driving around to the east or the west sides. To the east, it is necessary to go all the way around the State House to get to Mt. Vernon Street. To the west, it is necessary to go to Embankment Road to enter the Hill via either Mt. Vernon Street or Revere Street. From the west, the U-turn prohibition at Beacon and Arlington Streets also causes extremely long and roundabout access trips.

Egress to the Cambridge Street area for local traffic located south of Mt. Vernon Street or west of Charles Street can only be attained by the use of Embankment Road. The problem indicated by these two routes is how to allow local users to gain access and egress to the north and south sides of the Hill without opening up new routes for through traffic.

c. Circulation Within The Hill

Residents of the Hill who live north of Mt. Vernon Street, complain that there is no way (other than Embankment Road and Storrow Drive) to get to their destinations if they are on Mt. Vernon or Chestnut Streets. Related to this is the complaint of residents and business people that, if one is on Charles Street and passes a desired destination, the only way to backtrack is to go down to Embankment Road or Storrow Drive. This is extremely inconvenient and, in addition, it is confusing to visitors who are not very familiar with the area and reduces their desire to shop on Charles Street.

Taxi cabs are reluctant to enter Beacon Hill streets to look for fares, because once they are committed to a southbound direction, they cannot reverse their direction unless they go to Embankment Road or all the way around the State House.

The problem is to find a method by which local traffic, already using local streets, can more easily and conveniently circulate in the vicinity of Charles Street, without introducing routes which will attract new through movements.

3. Other Traffic Concerns

a. Trucks

Because of some of the access and circulation problems already described, there are an unusually high number of trucks on Embankment Road. The MDC has prohibited trucks on its parkways for many years, but they have been reluctant to enforce this section because of the circulation problems. This use of one part of the parkway system encourages trucks to use other parts of the system, and in many cases they get hung up on low clearance structures. The problem is to devise a procedure by which trucks can be directed to destinations in the vicinity of Beacon Hill without the necessity of using Embankment Road.

b. Parking

The parking supply on Beacon Hill is not sufficient to meet the demand. This poses a problem for residents and for merchants. The resident problems have been partially resolved by the Resident Parking Program, under which residents compete among themselves for parking spaces. This search for parking is made more difficult by the lack of circulation versatility.

The parking for merchants, using metered spaces on Charles Street and vicinity, is made more difficult by illegal use of meters and loading zone spaces. The problem is to devise ways and means of utilizing the existing parking supply more efficiently.

c. Signage and Pavement Markings

Signs directing traffic onto Charles Street for purposes of visiting residents or shopping in the retail establishments, are not good. The existing signs are not well placed and are too small. Additional signing is needed. In addition, certain regulatory and information signs are either missing or have not been placed. Pavement markings in the area have not been upgraded, and they have not been revised to fit into the present traffic pattern. The problem is to improve the signing and pavement markings in this area.

C. SUMMARY OF STREETSCAPE PROBLEMS

The unique aspects of Beacon Hill which make it a desirable place to work, live, visit and shop include many amenities which have existed for many years and also some which are more recent. The problem is to assess the status of existing street and sidewalk amenities and determine what and how improvements can be made.

CHAPTER III

DISCUSSION OF TRAFFIC PROBLEMS

CHAPTER III

DISCUSSION OF TRAFFIC PROBLEMS

A. EVALUATION OF CHARLES STREET OPERATION

For many years, Charles Street between Beacon and Cambridge Streets was dominated by through traffic, with neither an origin nor a destination in the Beacon Hill neighborhood. Used as a major arterial route by cross-town traffic, the street was characterized by frequent congestion and considerable conflict with locally oriented vehicular and pedestrian traffic.

Charles Street formerly operated oneway northbound and now operates oneway southbound; one other possible operation would be twoway. Analysis of these three alternatives (see Appendix D) leads to the conclusion that either of the two alternatives which allows a northbound movement will result in substantially increased traffic volumes, which in turn will increase the congestion and delay for all traffic on Charles Street. Efforts to limit the access into the area by physical construction will have the same effect as constricting the flow of water through a funnel: the smaller the opening, the slower the water flows through and the faster it backs up into the reservoir area.

Prior to the reversal of Charles Street's direction in 1982, a proposal was made to construct neckdowns and street narrowings to control traffic volumes and add to the aesthetics of the Street. This proposal was abandoned, primarily for two reasons. First, the cost of construction would be increased by many problems involving the relocation or adjustment of underground utilities. Second, it was very clear that through traffic would not be diverted by such actions and that the combination of reduced capacity and loss of parking spaces would be detrimental to both through traffic operations and local access. The resulting congestion would also cause traffic to back up across Beacon Street and produce serious problems in the movements of other vehicles passing through that intersection in all directions.

Consideration was also given at that time to limiting turning movements from Charles Street at Charles Circle to Cambridge Street only. If this were done, through traffic on Charles Street would seek alternate routes to reach Charles Circle and points beyond, including:

* A left turn onto Pinckney Street and other streets on the Hill.

* A U turn at Cambridge Street

* A left turn from Cambridge Street onto Blossom Street.

If the island from Embankment Road were extended across Charles Street to physically impede additional turns, there would need to be an opening for traffic coming from the Longfellow Bridge to access Government Center, Cambridge Street and Leverett Circle. Traffic from Charles Street would undoubtedly try to use this opening, creating congestion and conflicts. An additional signal phase would be needed adding to the slowdown of traffic.

Efforts to find a solution to the traffic problems in the area continually pointed to a basic axiom in traffic operations control: The only effective way to eliminate through traffic from a route perceived by drivers to be a desirable route is to physically prevent the movement, either by means of a oneway reversal or the installation of a physical impediment to the through movement. The existing operation represents the implementation of both the oneway reversal and the installation of an island within the intersection of Beacon and Charles Streets.

Evaluation of the operation of the Street two years after the change was put into effect has led to the following conclusions:

1. A majority of the residents, businesspeople and users of the Street favor the present operation of the Street.

2. Most of those who support a return to the other direction of operation are not in favor of returning to the previous condition of through traffic and peak hour congestion.

3. Access into the residental and business area from the Beacon Street side has been seriously curtailed and requires some adjustments.

4. The reduced volume of traffic on Charles Street has made parallel parking on Charles Street a safer and more comfortable operation.

5. Alternatives which allow traffic to move in a northerly direction on Charles Street would result in

excessively high traffic volumes and unacceptable conditions of congestion and delay on Charles Street.

Traffic operations on Charles Street were analyzed in three parts: the Charles St./Beacon St. intersection, Charles Circle and the five-block commercial area between Beacon Street and Charles Circle. Traffic operations takes into account not only the movement of cars and trucks but also includes pedestrian movements, parking, loading, taxi activities and street amenities.

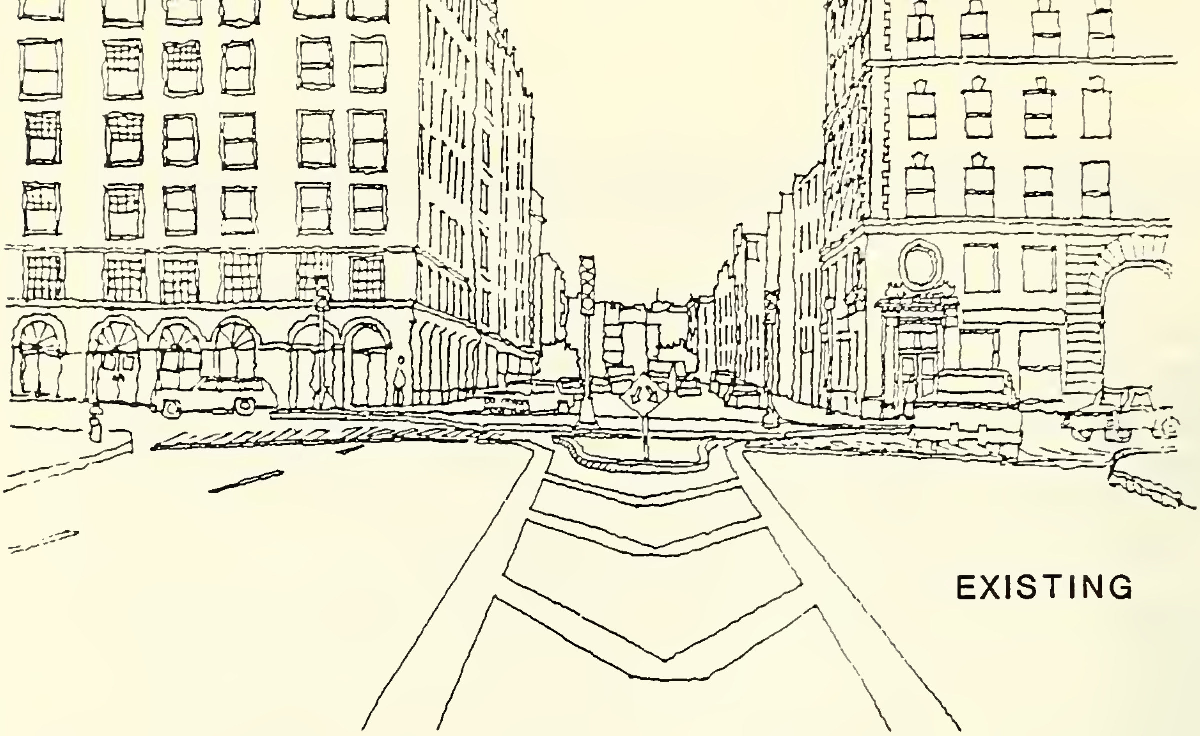
1. Charles St./Beacon St. Intersection

The island at the intersection of Beacon and Charles Streets is designed to channel traffic approaching it into desired directions. Geometrically, the design is well done and there is nothing to indicate the need for any physical changes. Some improvements can be realized by adding or revising some of the pavement markings to guide both vehicles and pedestrians through the intersection. The existing traffic signal controller is limited in its ability to respond to traffic variations. Under the current laws which allow right turns on the red light, conflicts between pedestrians and vehicles constitute a serious problem.

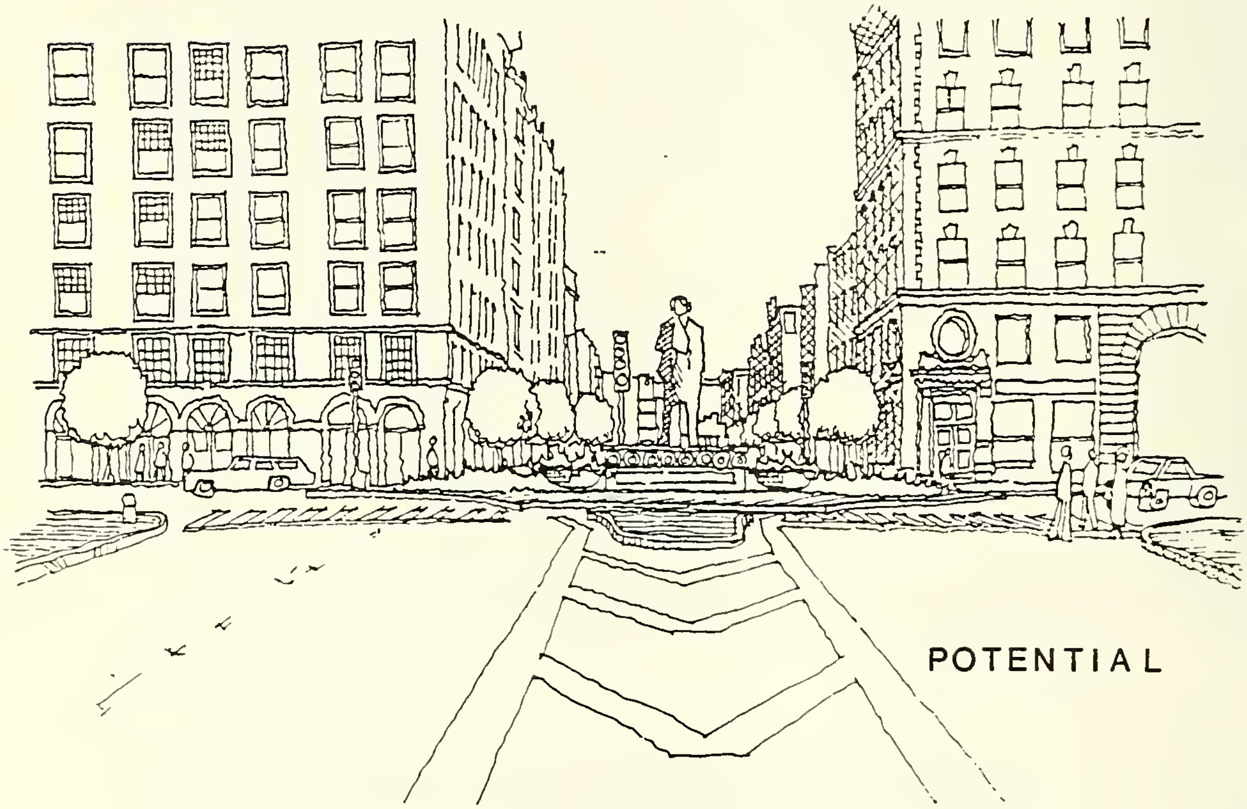
The surface of the island has not been finished and the current rough condition constitutes a safety hazard. There is currently much discussion as to how the aesthetics of the island should be treated and what kind of plantings or statuary should be installed. (See Figure 4). It appears that if the current contract to complete the island by means of a brick surface is allowed to proceed, the cost of any additional improvements which may be approved would not be appreciably altered. (Note: After a draft of this report was presented to a public meeting in October of 1984, there was a clear concensus that the brick work on the island be completed, as modified to allow for a planting area. This work was completed in November of 1984.)

2. Charles Circle

At present, Charles Circle is neither efficient nor attractive. Considerable discussion has been given to this matter by all parties concerned and there appears to be a concensus to proceed to a level of preliminary design which will enable a reasonable cost estimate to be prepared.



EXISTING



POTENTIAL

BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE 4

CHARLES ST. AT
BEACON ST.

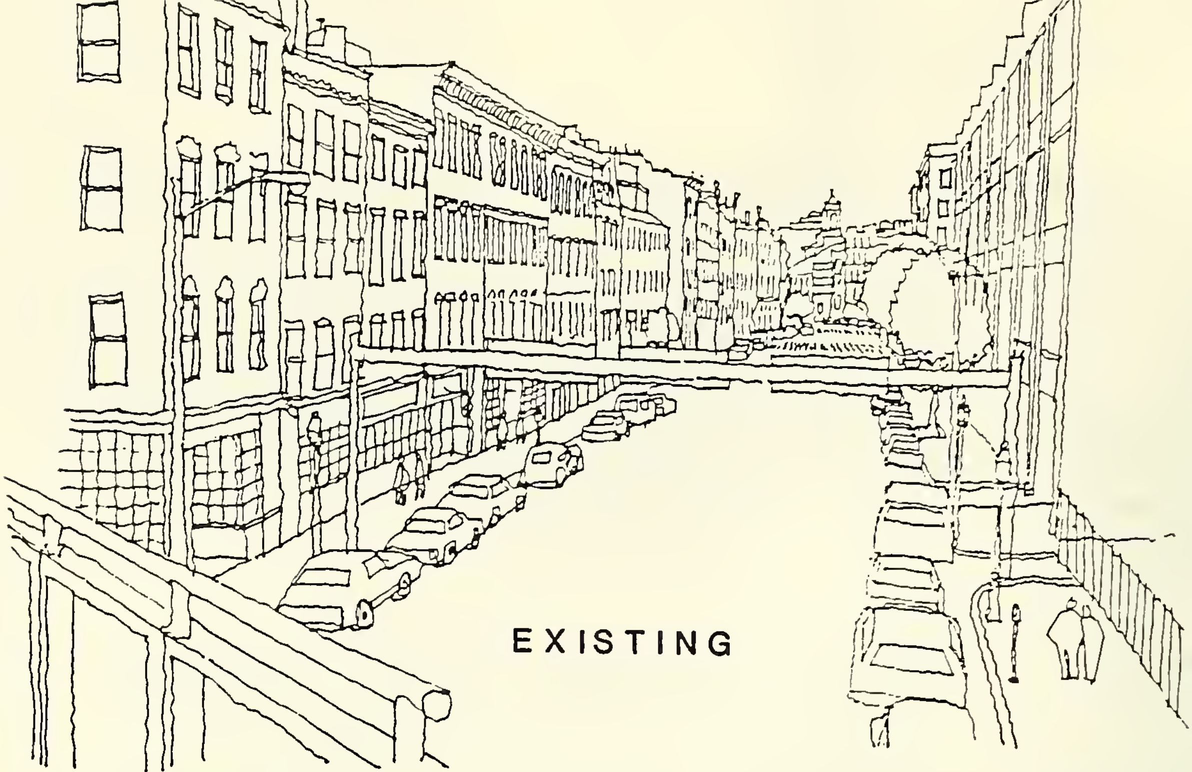
Essentially, the ideas which are being pursued include the realignment of the roadways and approaches and the filling in of portions of the street area which are not needed for vehicular movements. It has been suggested that the entry into Charles Street from Embankment Road be exclusively routed to the right, by-passing the Circle. This will allow clear and easily understood signing and will eliminate many of the conflicting movements currently being experienced. The consolidation of approaches to the Circle into one less than is now there will enable the traffic signal operation to be somewhat longer for each of the three approaches than is now required for each of the four approaches.

The consolidation of vehicular paths will allow a substantial expansion of the sidewalk and pedestrian areas, offering opportunities for extensive plantings, statuary and other appropriate amenities. The existing pedestrian overpasses are essential and should be retained or relocated. The existing overhead signs should be removed and proper entrance aesthetics developed.

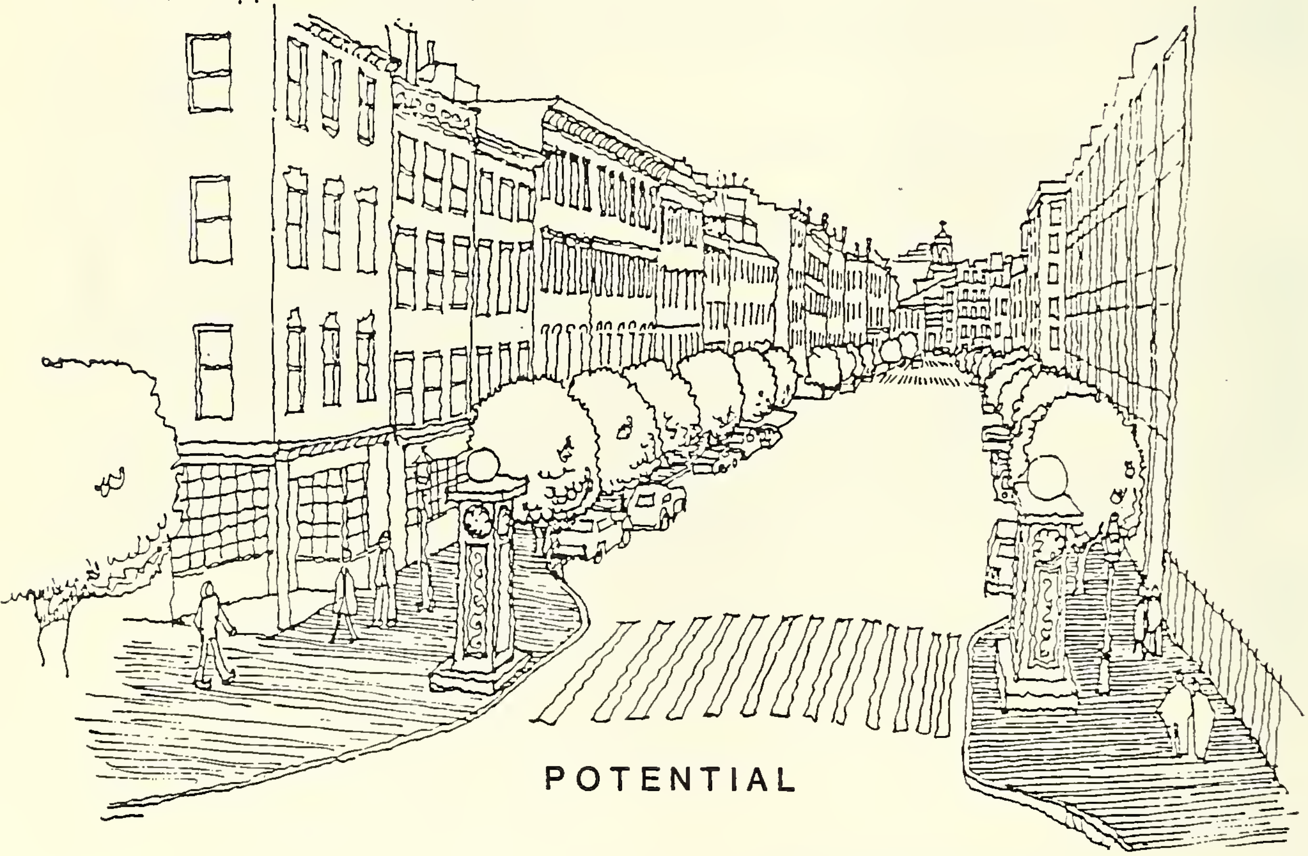
3. Beacon Street to Charles Circle

The combination of residential and commercial usage along Charles Street is a unique feature to be maintained. Previous proposals to add sidewalk widenings and street neckdowns were rejected in the past because of cost factors and inability to accomodate the street demands. Tne new parameters resulting from the operation of the street as it now exists can be reviewed from a new perspective to determine if there are practical aspects of the previous proposals which can be pursued. (See Figure 5).

The sidewalks are not as wide as might be desired, and widenings at intersections would be of great advantage to pedestrian safety. Handicapped accessability could be improved by the inclusion of ramps at each crossing point. The budgetary limitations imposed on municipal government requires a careful balance of priorities.



EXISTING



POTENTIAL

BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE 5

CHARLES ST. AT
CHARLES CIRCLE

B. CIRCULATION ALTERNATIVES

1. Through Traffic Movements

a. Revere Street - The largest movement of through traffic on residential streets in the area is the traffic on Revere and Myrtle Streets from Embankment Road to Hancock Street. This traffic should operate on Cambridge Street, but the short cut over the Hill is very attractive. Revere Street from Embankment Road to Charles Street is also a main access route into the retail area. It was concluded that a remedy for both of these problems would be to open up better access into Charles and Cambridge Streets and to reverse Revere Street from Charles Street to Embankment Road. This action would substantially reduce traffic volumes on all of Revere Street, and at the same time improve access onto Charles Street as described below under Charles Circle. Reversal of one additional block of Revere Street from West Cedar to Charles Street would emphasize this through traffic reduction and allow an improved internal circulation operation.

b. Mt. Vernon Street - Mt. Vernon Street is not only used as a by-pass route to avoid Beacon Street congestion, but it is an obvious "natural" route for westbound traffic coming from the State House, Suffolk University and Bowdoin Street. It leads to westbound Beacon Street via Charles Street or River Street or Brimmer Street, and to northbound Storrow Drive. In addition, the offset intersection west of Charles Street, in front of the fire station, is a very hazerdous head-on conflict condition. This heavy through movement can be substantially reduced by making the block between River Street and Charles Street oneway eastbound. This operation allows freedom of circulation for residents west of Charles Street, and still allows full access to Charles Street from both directions on Mt. Vernon Street. The head-on conflict in front of the fire station is eliminated, but the street is still available to local residents as a two-way street. Access from Charles Street to the west is available via Pinckney Street or Chestnut Street.

c. Pinckney Street - The reversal of Revere Street forces Pinckney Street residents to go through Charles Circle to get to Charles Street or to Beacon Street. Consideration was given to avoid this movement by changing the short section of Pinckney Street from River Street to Charles Street to operate as a twoway street. The major generator of traffic on that street is the River House, which has a garage entrance opposite River Street. As a result of this change, traffic exiting the garage would have the choice of turning right to Brimmer Street or Embankment Road, or turning left to Charles Street. Implementation of this proposal would require the prohibition of parking on the north side of Pinckney from Charles Street to River Street; however, the three spaces lost could be replaced by five spaces on the south side of Pinckney Street between River and Brimmer Streets. It is proposed to also reverse the one block of Pinckney Street from Charles Street to West Cedar Street to operate as a one way circulation pair with Revere Street and to prevent the use of Pinckney Street as an alternative through route down the Hill.

2. Access and Egress

When the direction of Charles Street was reversed to its present operation, several new problems of access to the residential and commercial areas of Beacon Hill were created. Several possible solutions to these problems were discussed and evaluated.

The most pressing problem is that of access from the Beacon Street side of the Beacon Hill area. Since there are comparatively few streets entering Beacon Hill from Beacon Street, each of them was considered.

a. Joy Street - This street is part of the circulation pattern around the State House. Traffic enters Beacon Street under signal control. Reversing this street would add considerably to the volume of traffic at the very narrow intersection of Joy and Mt. Vernon Streets, and a new short-cut across the Hill would be opened up. Traffic circulating the State House would be routed to Walnut Street, with no signal at Beacon Street. The potential for more traffic to be routed onto other residential streets would be increased, especially traffic using Mt. Vernon Street to by-pass the Beacon-Charles intersection or to get to Storrow Drive. Therefore, no further consideration was given to the use of Joy Street for access from Beacon Street.

b. Walnut Street - Reversing Walnut Street has many of the same drawbacks as Joy Street. In addition, such action would create a problem of how to handle traffic proceeding up Mt. Vernon Street. Consideration was given to extending the twoway operation of Mt. Vernon Street another block, but that would require the loss of about 10 to 12 parking spaces, and would create new conflict problems at the intersection of Mt. Vernon and Joy Streets. Thought was given to reversing Walnut Street from Beacon Street to Chestnut Street only, but this was rejected because it would attract traffic destined for Storrow Drive and would not allow local traffic to penetrate far enough into the Hill to be of value for that purpose. Many suggestions were discussed regarding ways and means of making this access work, and all were discarded as being either too complicated or of comparatively little advantage.

c. Spruce Street - Reversal of this street results in many of the same problems and difficulties as the reversal of Walnut Street, and therefore was dropped from further consideration.

d. River Street - The use of River Street in the opposite direction from Beacon Street to Mt. Vernon was rejected based on the turning conflicts with traffic travelling westbound on Beacon Street or turning right from Charles Street.

e. Brimmer Street - Early discussions of reversing Brimmer Street from Beacon to Pinckney were rejected because of the problems of access to and from Embankment Road, because of the narrow street width beyond Mt. Vernon Street and because of the school and church uses along the street. The suggestion to reverse it to Mt. Vernon Street had many of the same disadvantages, with fewer advantages. This phase of the discussions led to a series of combination proposals which appear to have merit.

f. Brimmer-Chestnut-River - If Brimmer were operated oneway from Beacon Street to Chestnut Street, and Chestnut Street were reversed from Embankment Road to Charles Street, the resulting circulation pattern would enable access into the area without creating any advantage to through movements. Access to Mt. Vernon Street could be provided by reversing River Street from Chestnut Street to Mt. Vernon Street. The present desire to use River

Street to get from Charles Street to Beacon Street can be maintained by allowing the short section of Chestnut Street from Charles Street to River Street to operate in both directions: This operation would be safer than the present operation at Mt. Vernon and River Streets and would serve the same purpose.

One of the major advantages of this proposal is that it can be implemented fairly quickly and inexpensively for a trial period and just as easily can be returned to the present operation if the trial operation is not acceptable. One of the major shortcomings is that it does not provide access into the parts of the community beyond Mt. Vernon, and this factor prompted further investigations.

g. Charles Circle - At present, traffic from Embankment Road wanting to turn right into Charles Street must keep left to be in the proper lane to turn right. Considerable thought has been given to improvements in the layout and operation of Charles Circle to remedy this condition. It has been suggested that the right hand portion of Embankment Road be modified to allow a direct movement into Charles Street. This can be accomplished if the stairway to the MBTA overpass is relocated and the roadway modified accordingly. This modification can be a part of the larger task of revising the entire southerly portion of the Circle to improve the operation of traffic and present a more attractive entrance to the Charles Street commercial area and to the Cambridge Street - Government Center area.

h. U-Turn at Arlington and Beacon Streets - This movement has been prohibited based on the head-on conflict with vehicles turning right from Beacon Street into Embankment Roads. It has been pointed out that local traffic from the west, desiring access to Beacon Hill now uses this movement illegally and that it should be allowed.

3. Circulation Within the Hill

The existing system of oneway streets on Beacon Hill was designed to reduce or eliminate through traffic, which has been accomplished. However, residents have had to adjust their driving patterns in circulating within the neighborhood, and most people have become acclimated to the circulation pattern without opening up the potential for through traffic, and some of these possibilities have already been pointed out as part of access and egress operations, or as part of the effort to further limit existing through movements.

a. Charles Street Evalutation -At present, a southbound vehicle on Charles Street, passing its destination, or desiring to backtrack, must exit the area and re-enter. Several of the proposals previously described offer some p15.05ossibility of recirculation west of Charles Street. Attention was given to the potential of revision to the east, using West Cedar Street.

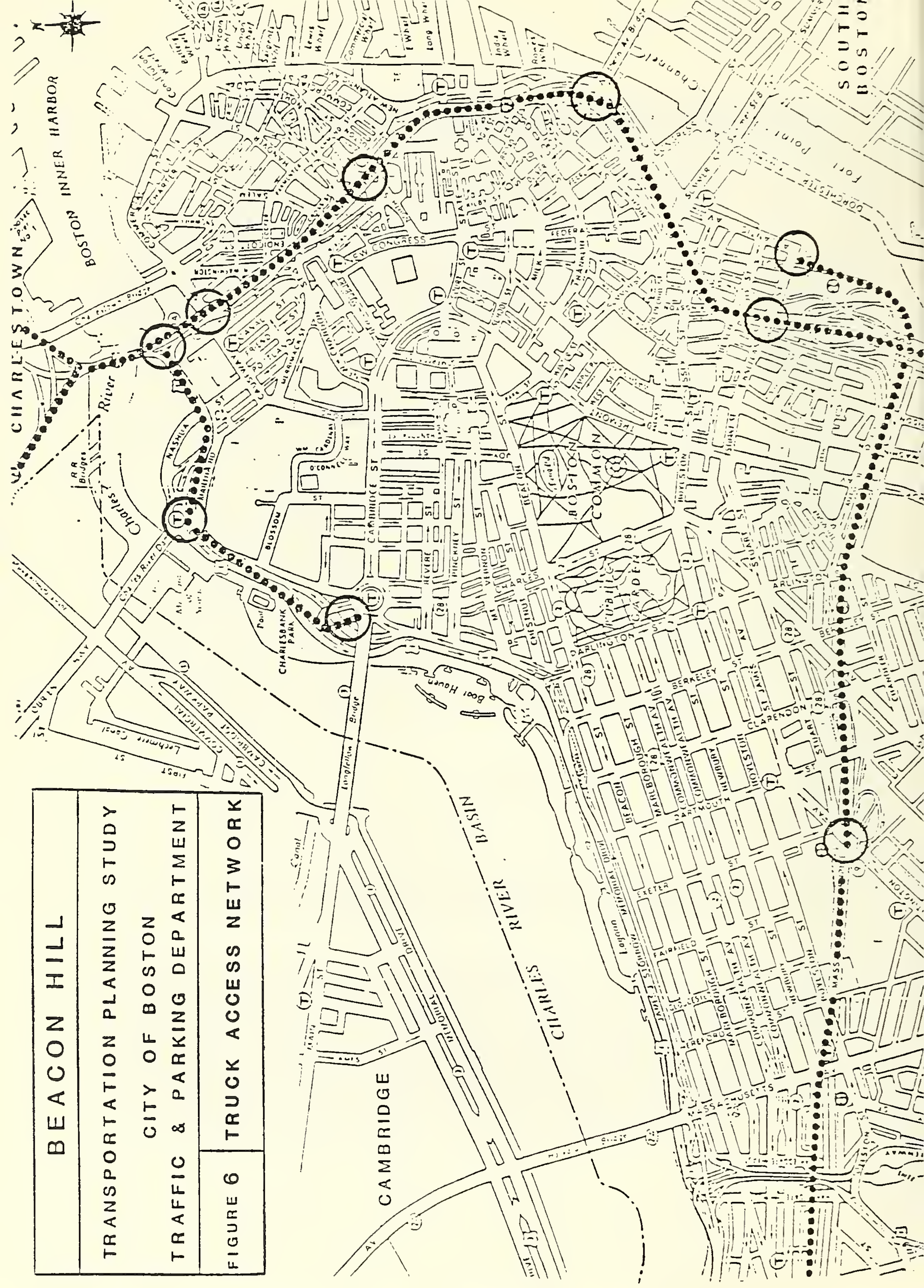
b. West Cedar Street - This street would provide a route which could serve three purposes if its operation from Mt. Vernon Street to Revere Street were reversed. First, it would provide a route for local residents to gain access to Revere Street and that part of the Hill between Mt. Vernon and Cambridge Streets. Second, it would provide a means of access and circulation for Charles Street north of Mt. Vernon Street. Third, it would provide a return route for residents from the upper part of the Hill to get to Charles Street and return without the necessity of using Embankment Road. This operation would require the reversal of West Cedar Street from Chestnut Street to Revere Street, leaving the two blocks between Revere and Cambridge Streets operating as they do now. Egress to Cambridge Street would be possible via Revere and Anderson Streets.

C. OTHER CIRCULATION MATTERS

1. Trucks

Trucks pose two sets of problems for the Beacon Hill area. One set relates to access into the area, the other to access to points through or beyond the area.

At present, truck access into Beacon Hill is limited by the types of streets surrounding and leading into the area. Trucks from the south and the west approach on Charles Street from Boylston Street, and then must turn either right or left onto Beacon Street. If they turn right, they end up on Bowdoin Street and Cambridge Street; If they turn left, they end up on Embankment Road. Neither of these routes is a desirable truck route, and these vehicles would have better access to the Beacon Hill area if they remained



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE 6

TRUCK ACCESS NETWORK

on the Expressway system or approached on the Cambridge side of the Charles River. An approach from Charles Circle or from Cambridge Street provides for a much better access route.

It is pointed out that many trucks which make deliveries in the Back Bay area and attempt to get from there to destinations on Charles Street are routing themselves in the wrong direction. If they made their stops in the Beacon Hill area first, they could then proceed south on Charles Street to Beacon Street, then to Arlington Street and then to streets connecting to the west.

The MDC has not maintained a high level of enforcement of truck restrictions on Embankment Road, and they are being urged by many residents to increase the level of that enforcement. This action would be in the best interests of all concerned, including truck operators. In meetings between the MDC and the City of Boston,Traffic and Parking Department, the MDC has been urged to take this action, with steps being taken to urge truck drivers to follow the network of roadways indicated on Figure 6.

2. Parking

The residential parking supply on Beacon Hill is limited and there appears to be very little opportunity to expand it. There is a possibility of finding a few additional spaces by means of a detailed block-by-block review of existing parking prohibitions.

Similar problems face the commercial parking areas on Charles Street and vicinity. However, a parking turnover study has indicated that of the 168 spaces available, 110 to 120 are used by an average 750 vehicles and about 40 or 50 spaces are used by 1 vehicle each. If these all day parkers were eliminated, the result would be the equivalent of adding 300 to 350 spaces per day to the available supply.

The elimination of these long term parkers will require a detailed follow-up which includes an increase in enforcement efforts, a review of loading zone permits and uses and a review of location and use of taxi stands.

3. Signs/Pavement Markings

Some of the signage problems have been addressed in the section on streetscape, and should be included in an overall sign review in the area. Missing and damaged signs should be replaced in the course of regular maintenance activities. New signing should be considered for the proposed revised entrance roading at Charles Circle. At Charles and Beacon

Streets, consideration should be given to the installation of "No Turn on Red" signs.

Pavement markings are in fairly good condition in most of the areas. However, in the vicinty of Charles and Beacon Streets there is need to install pavement markings on the north leg of Charles Street, and to add broken lane lines to guide turning movements into proper vehicle paths.

CHAPTER IV

DISCUSSION OF STREETSCAPE PROBLEMS

CHAPTER IV

DISCUSSION OF STREETSCAPE PROBLEMS

A. DISCUSSION

Several elements were discussed relative to improving the environment for pedestrian traffic, primarily on Charles Street. These included: trees, neckdowns, trash receptacles, poles, crosswalks, and lighting. Each was assessed with respect to function, design, advantages, disadvantages, and cost.

1. Trees: Consideration was given to their location in relation to distance from street lights, other trees, and the curb line, variety and the design of the tree pits.

2. Neckdowns: A neckdown is a physical extension of a sidewalk into a street, particularly at an intersection. It serves to decrease the street distance a pedestrian must cross and allows maximum space at corners where they gather. It disallows illegal parking at the point where crossing ought to occur. Neckdowns can be costly if major utility relocation work is required. They also frequently require the loss of at least one parking space.

3. Trash Receptacles: It was agreed that trash receptacles on Charles Street are necessary but that the size and design must be carefully selected to prevent the deposit of household trash.

4. Poles: This element includes street names, directional and parking sign regulation poles and parking meters. Consideration was given to incorporating street name and parking regulation signs on street light poles, thus reducing the actual number of poles on the streets. Consensus was reached on adding new signs at the Storrow Drive Exits indicating "Beacon Hill - Historic Area". Traffic signal poles should be pedestrian or "neighborhood" in scale as opposed to "highway" standards.

5. Crosswalks: It was agreed that crosswalks should be treated in two ways. Minor crosswalks should be of thermoplastic material while major crosswalks should be constructed of brick with granite edging.

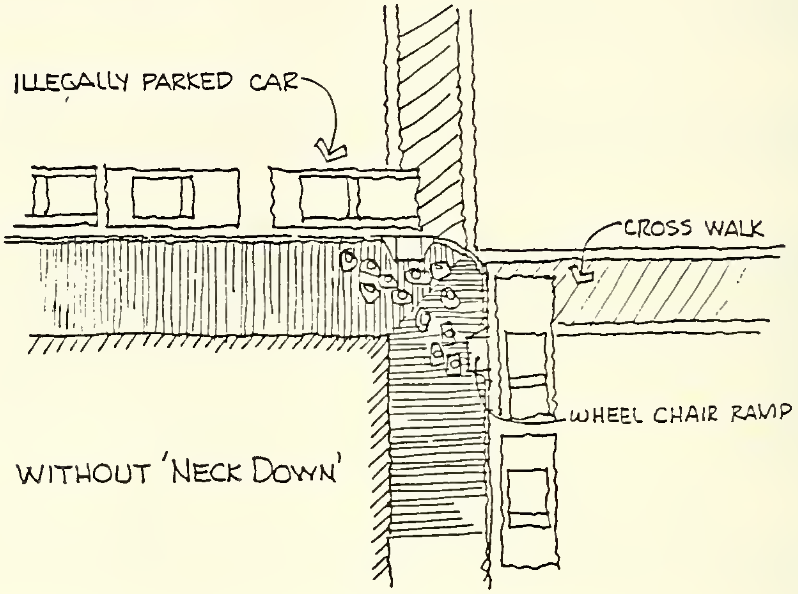
6. Lighting: Excess lights should be eliminated with gas lights retained and cleaned.

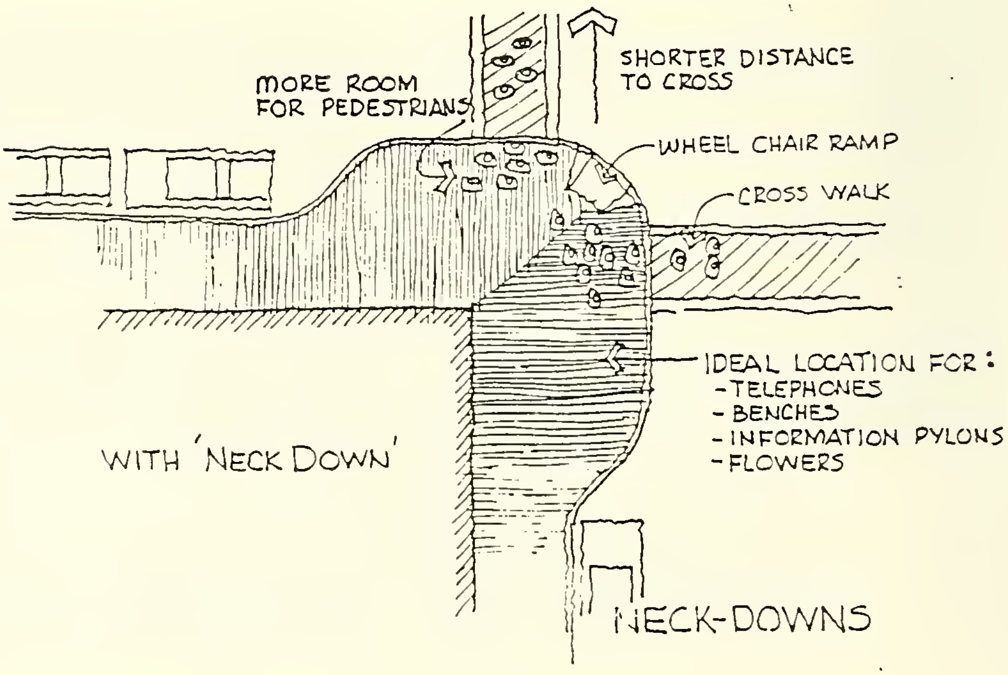
7. Intersection Design: Both the Beacon Street/Charles Street and the Charles Circle intersection were thoroughly

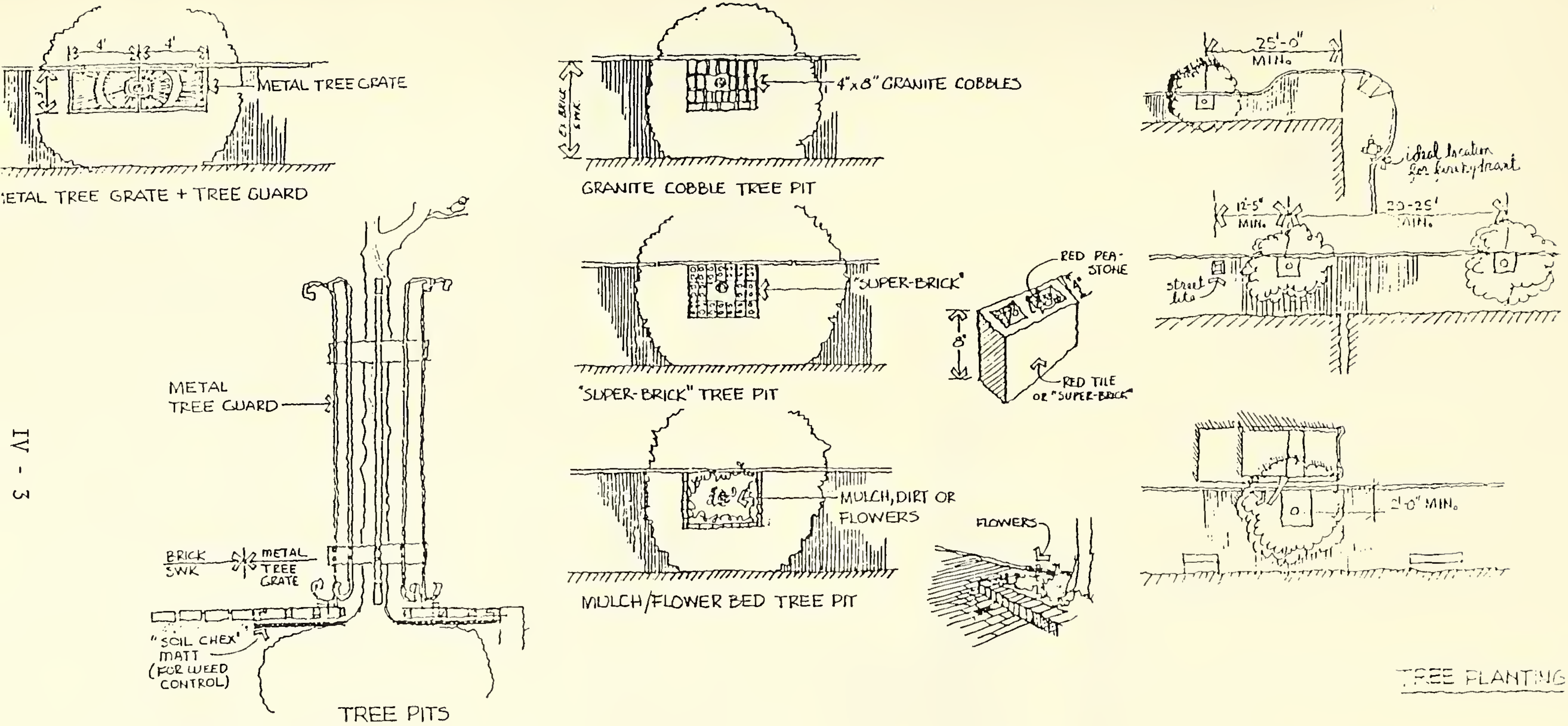
discussed with emphasis placed on a "gateway" theme to be developed though the use of sculpture and plantings. Improved pedestrian crossings, neckdowns, and benches all may be part of the final design.

B. EXAMPLES

Examples of some of the options considered are included in the following pages.







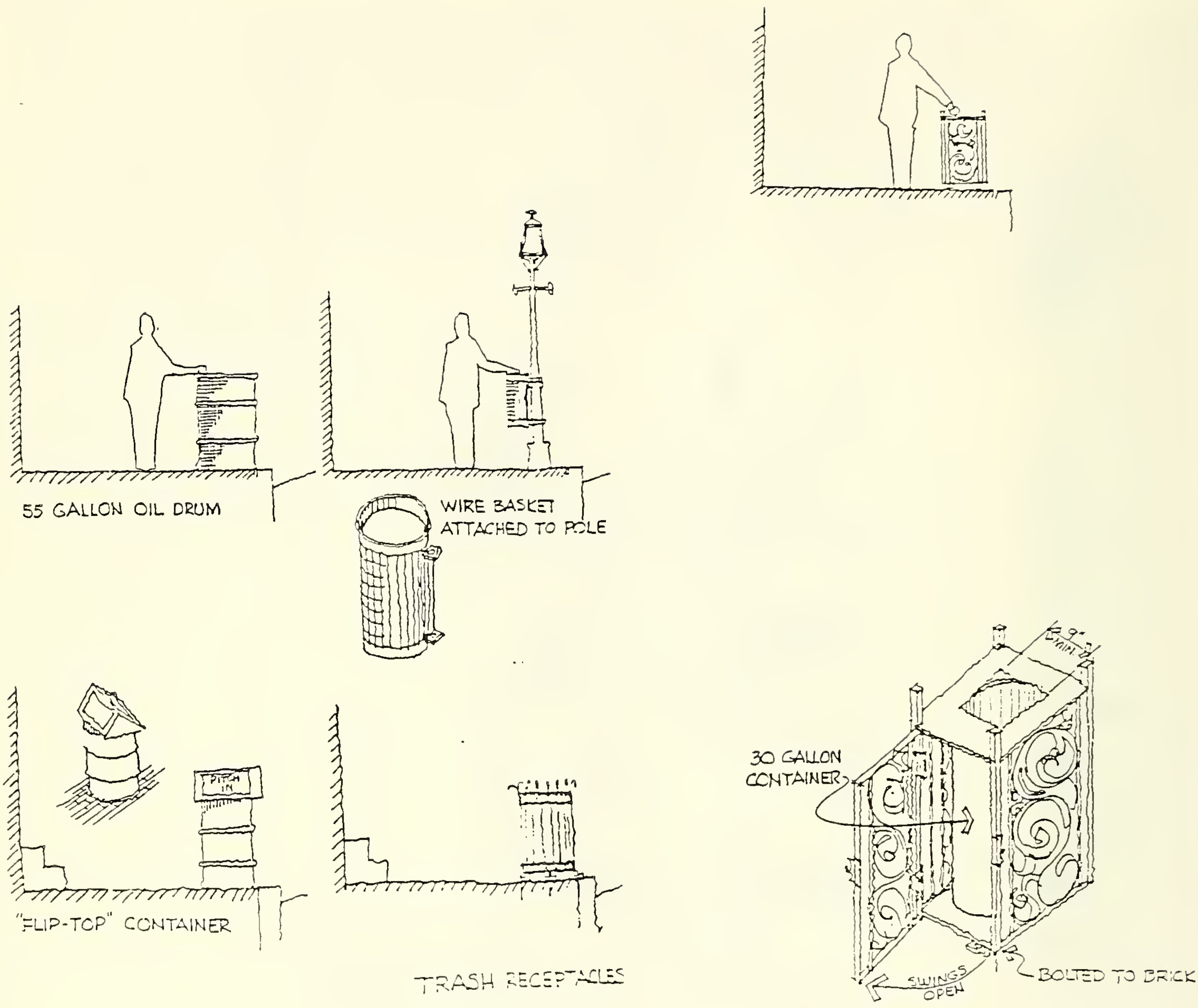
BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE 7 | TREE PIT OPTIONS



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE 8

TRASH RECEPTACLE OPTIONS

CHAPTER V

RECOMMENDATIONS

CHAPTER V

RECOMMENDATIONS

The recommendations in this section are divided into three basic groups, according to the length of time required to complete preparatory work. These groups are IMMEDIATE, INTERMEDIATE, and LONG RANGE.

The IMMEDIATE group includes those actions which can be done with a minimum of physical change and may be done within existing budgetary and staff capabilities. A time period of 3-6 months from approval of the report is a reasonable expectation on these items.

The INTERMEDIATE group includes those matters which require design effort and budget allocations not immediately available. These are matters proposed to be initiated immediately and which can reasonably be expected to be completed by the end of 1985 early in 1986.

The LONG RANGE group includes those matters which require more extensive design, reviews, programming and planning. Preliminary design will be initiated as soon as possible, and it is reasonable to expect construction to be underway within a period of three to five years.

A. IMMEDIATE

1. Charles Street should continue to operate oneway southbound from Charles Circle to Beacon Street.

This recommentation does not require any specific action. It is a conclusion drawn from an overwhelming majority of all the contacts, responses and discussions. The purpose of the recommendation is to finalize the controversy over the direction of the street and allow other decisions and recommendations to be made on the basis of this present operation.

2. At the intersection of Beacon and Charles Streets, the following should be implemented:

a. Complete brickwork and other construction work as soon as possible (completed - November, 1984);

b. Install NO TURN ON RED signs;

c. Install pavement markings for turn lane guidance for left turns from Charles Street to eastbound Beacon Street;

d. Widen STOP line on westbound approach of Beacon Street;

e. Install lane lines in southbound Charles Street, establishing a right turn lane and a left turn lane;

f. Pursue additional operational improvements as practicable.

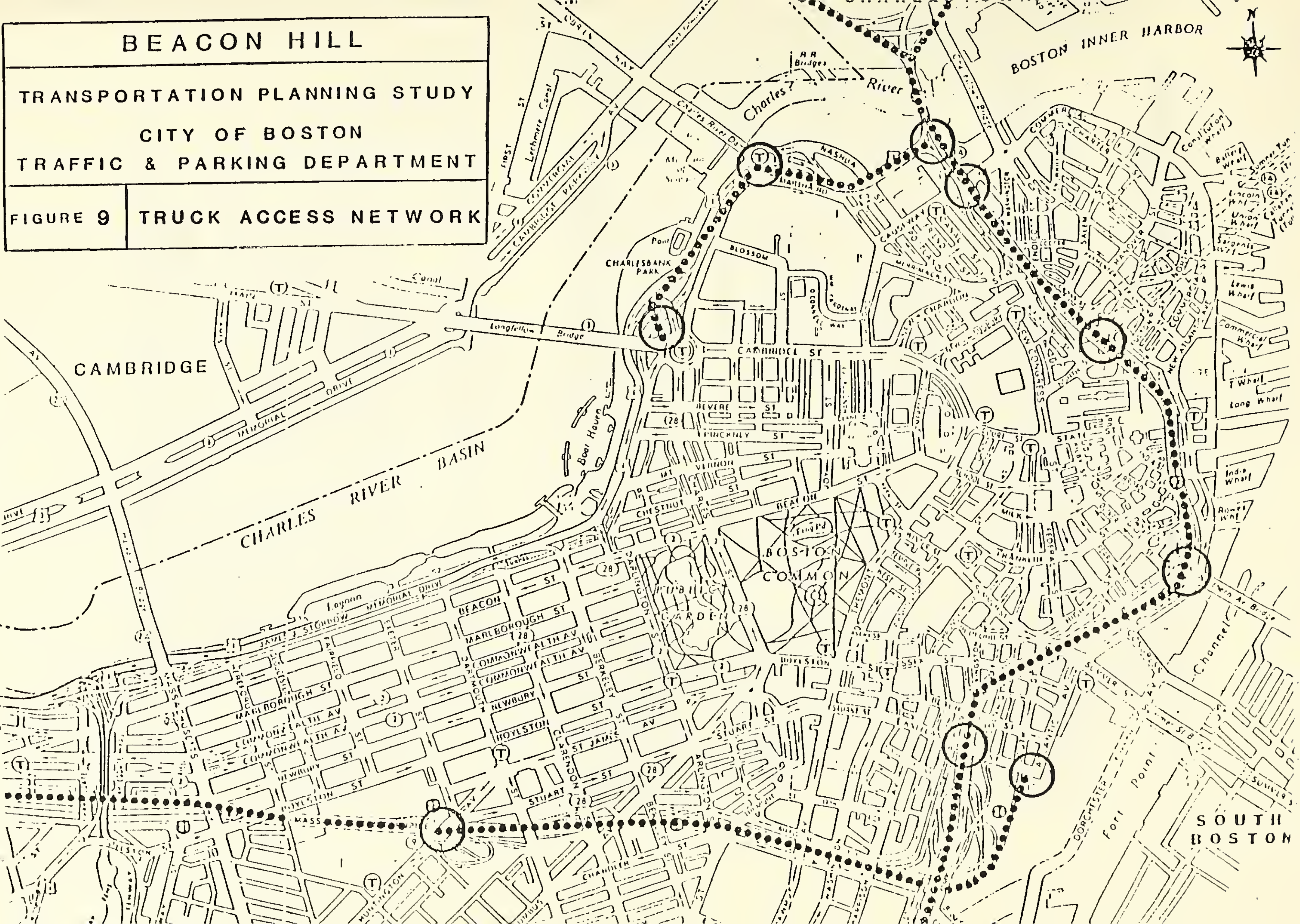
These recommendations are designed to improve the operation of the intersection of Charles and Beacon Streets by indicating the proper actions and vehicle paths to be followed. The pavement markings will require detailed and dimensioned drawings to be prepared. The necessary work orders for all these items can be prepared and processed by the Traffic and Parking Department in an expedious manner.

3. Remove the U-turn prohibition at Beacon and Arlington Streets; revise pavement markings to accomodate turning movements.

The desired movement is for local traffic approaching from the west on Storrow Drive. It can be accomodated by installing pavement markings to avoid conflict with the opposing westbound right turn from Beacon Street. If this movement is not allowed, traffic at this intersection must go completely around the Public Garden, ending up at the same intersection in the right turn lane. When the improved access into Charles Street at Charles Circle is implemented, the movement should again be re-evaluated in the light of traffic patterns at that time.

4. Enforce truck prohibitions on Embankment Road and on Storrow Drive.

The MDC has been tolerating truck movements on the parkway. The Boston Traffic and Parking Department has designated a major network of roadways to be used for truck access to Downtown Boston, and all trucks are being urged to remain on this network until they arrive at the local access point nearest their destination. The Truck Access Network Map is attached as Figure 9 of these recommendations. It is recommended that the MDC proceed to enforce the truck prohibitions, with the Boston Traffic and Parking Department cooperating in every way possible.



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE 9 TRUCK ACCESS NETWORK

5. Initiate a detailed review of all parking on Beacon Hill, with emphasis on the problems of loading zones and taxi stands.

The level of detail of the review recommended for residential spaces requires some initiative from local residents and follow-up investigation by the Traffic and Parking Department. The loading zones need to be evaluated separately, and are part of an on-going city-wide effort to establish policies and procedures for these matters. The recommendation here is to get these activities started so that follow-up work can be implemented when ready.

6. Install a new sign at Storrow Drive approach to Charles Circle, directing traffic to the proper lane for Charles Street.

The existing sign is very small and not readily legible to traffic required to keep to the left in order to make a right turn. The recommendation is to design and locate a sign which gives approaching drivers better directions.

7. Initiate a trash collection program.

The problems of trash affect pedestrians movements, in addition to the visual appearance of the area. The initiative for this program will rest with the Beacon Hill Merchants Association, with cooperation on the part at the proper City of Boston agencies. The recommendation is to get the program started, using the Traffic and Parking Department Staff as the City contact.

B. INTERMEDIATE

1. Implement the design and construction of the Embankment Road direct right turn into Charles Street.

This work will be the primary responsibility of the MDC. It is suggested that the Working Committee continue to function as an advisory and review group in this effort. The procedure under which this work will be done depends on the availability of design personnel, the budget and the final decisions as to exactly what will be done with the roadway and the pedestrian overpass.

2. Reverse Revere Street from Charles Street to Embankment Road.

This recommendation is based on the implementation of the Embankment Road right turn into Charles Street. It is designed to reduce through traffic on this block of Revere

Street and utilize the circulation recommendations made in the Immediate phase.

3. Initiate street name sign replacement program.

The Boston Traffic and Parking Department proposes to undertake a city-wide effort to upgrade and maintain street name signs. It is proposed that this effort be part of that city-wide program.

4. Initiate a tree planting program.

The exact number of missing trees has been determined and a tree planting committee has been activated. Because of the extent of work which needs to be done and the limited finances available, it will probably take 2 or 3 seasons to complete this effort.

5. Revise loading zones and taxi stands.

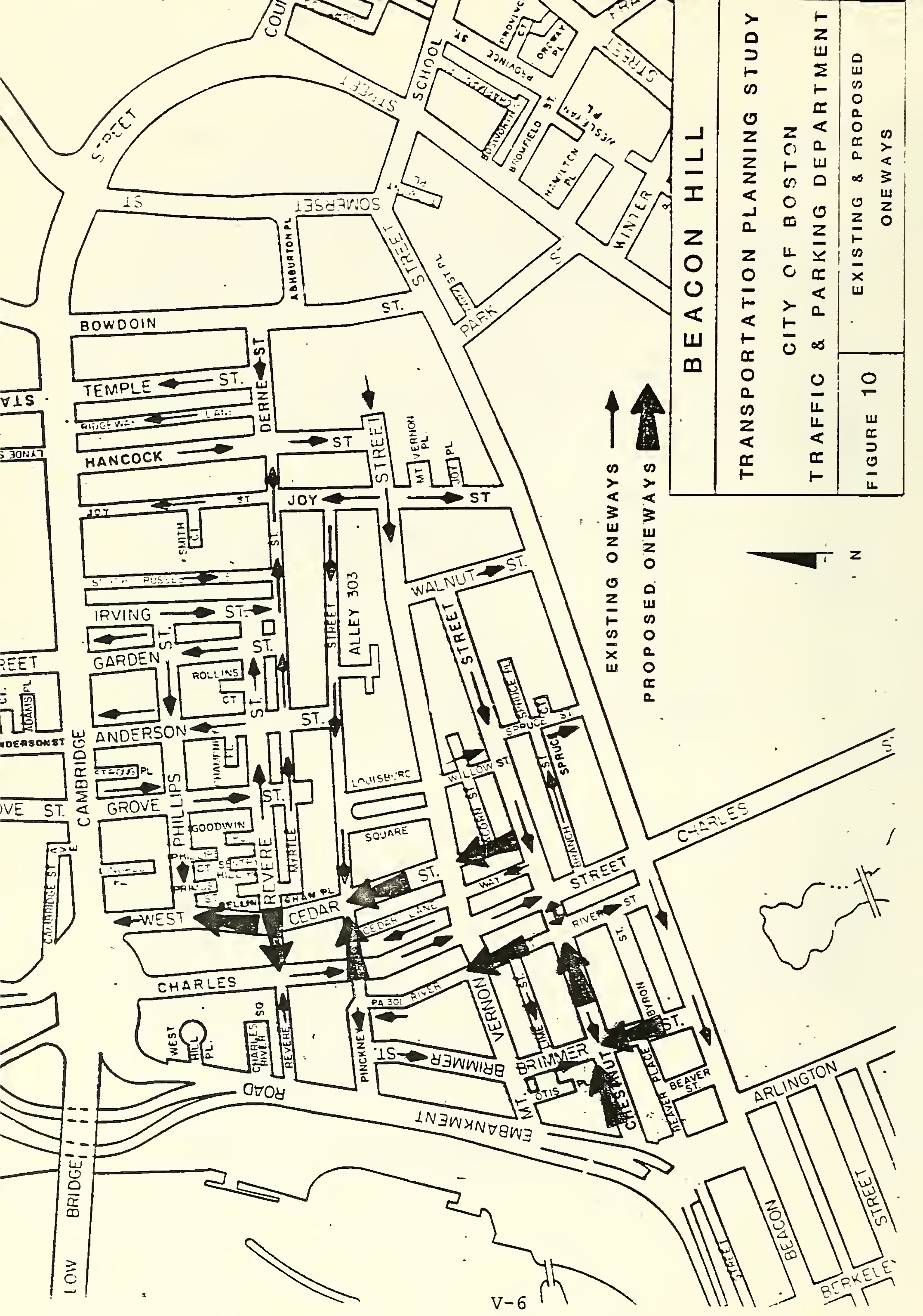
In the immediate phase it was recommended that this program be initiated. The recommendation here in that the policies and procedures adopted be implemented in this phase of the work.

6. Initiate consideration of internal street circulation changes upon request of the community subject to a clear neighborhood consensus following a widely publicized public meeting in the Beacon Hill area. The following street directional changes are recommended:

Street	From	To	Direction
Brimmer Street	Beacon Street	Chestnut Street	North bound
Chestnut Street	Embankment Road	River Street	Eastbound
Chestnut Street	River Street	Charles Street	Twoway
River Street	Chestnut Street	Mt. Vernon Street	Northbound
West Cedar Street	Chestnut Street	Revere Street	Northbound
Revere Street	West Cedar Street	Charles Street	Westbound
Pinckney Street	River Street	Charles Street	Twoway
Pinckney Street	Charles Street	West Cedar Street	Eastbound

These recommendations for directional changes, which are shown in Figure 10, are designed to accomplish three purposes:

1. Eliminate routes which could be or are being used for through traffic movements.



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE 10

EXISTING & PROPOSED ONEWAYS

2. Increase ease of circulation within the local street system for residents and visitors.

3. Add convenient access and egress to the local street system without encouraging through short-cut movements.

It should be noted that in every case, the streets involved are local streets and the traffic movements involved are localized in nature. The decision regarding actual implementation of these street operations may be made by the Commissioner of Traffic and Parking. At a public meeting on October 30, 1984, a commitment was made that none of these street changes would be made unless another public meeting was held on the subject. It is the strong recommendation of the staff, backed up by consensus of the Working Committee, that these recommendations would accomplish the purposes stated above.

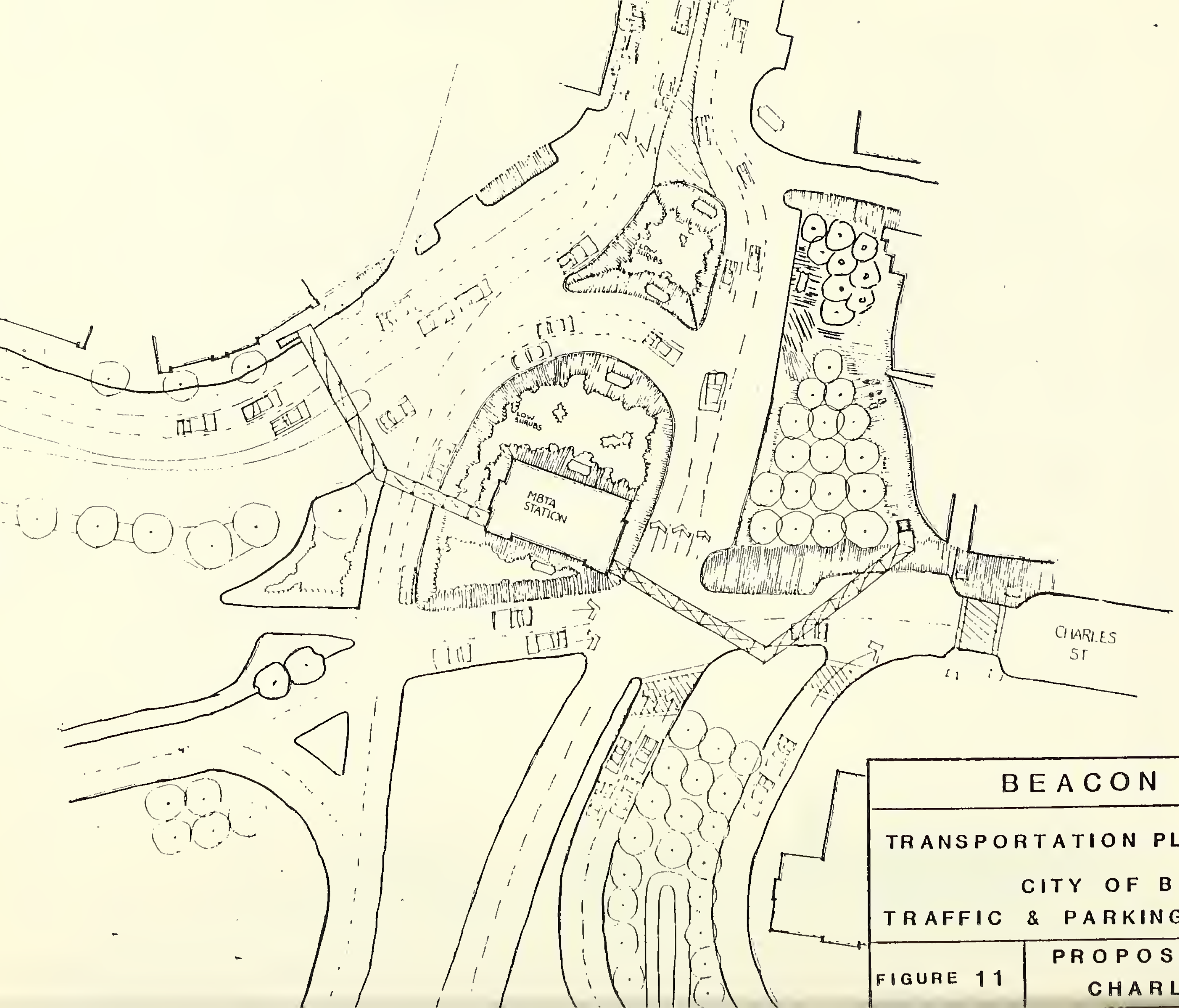
LONG RANGE

1. Implement design and reconstruction of Charles Circle.

The conceptual plan illustrated in Figure 11 has created a great deal of interest and support. Since this area is entirely within MDC jurisdiction, that agency must assume primary responsibility for advancing the work to implementation. It is recommended that the Working Committee continue to function as an advisory group on this project.

2. Develop statuary to be installed at each end of Charles Street.

The opportunity of using the island at the Beacon Street end and the pedestrian area at the Charles Circle end of Charles Street, as sites for some kind of public statue, should be pursued. Many details must be worked out, including how the process is managed, where and how are funds obtained, and who must be included in the process. It is recommended that the Working Committee sit as an advisory group to this process.



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE 11

PROPOSED CHANGES
CHARLES CIRCLE

APPENDICES

APPENDIX A

EXISTING CONDITIONS

APPENDIX A

EXISTING CONDITIONS

The information contained in this Appendix consists of the following items:

- Oneway Streets - a listing of oneway streets currently on the regulation books is followed by a map of the existing oneway pattern.

- Beacon Hill Street Widths - streets most frequently used for traffic circulation are included.

- Stop Sign Locations - a listing of streets on which STOP signs are located is followed by a map, which shows those locations on a map of the area.

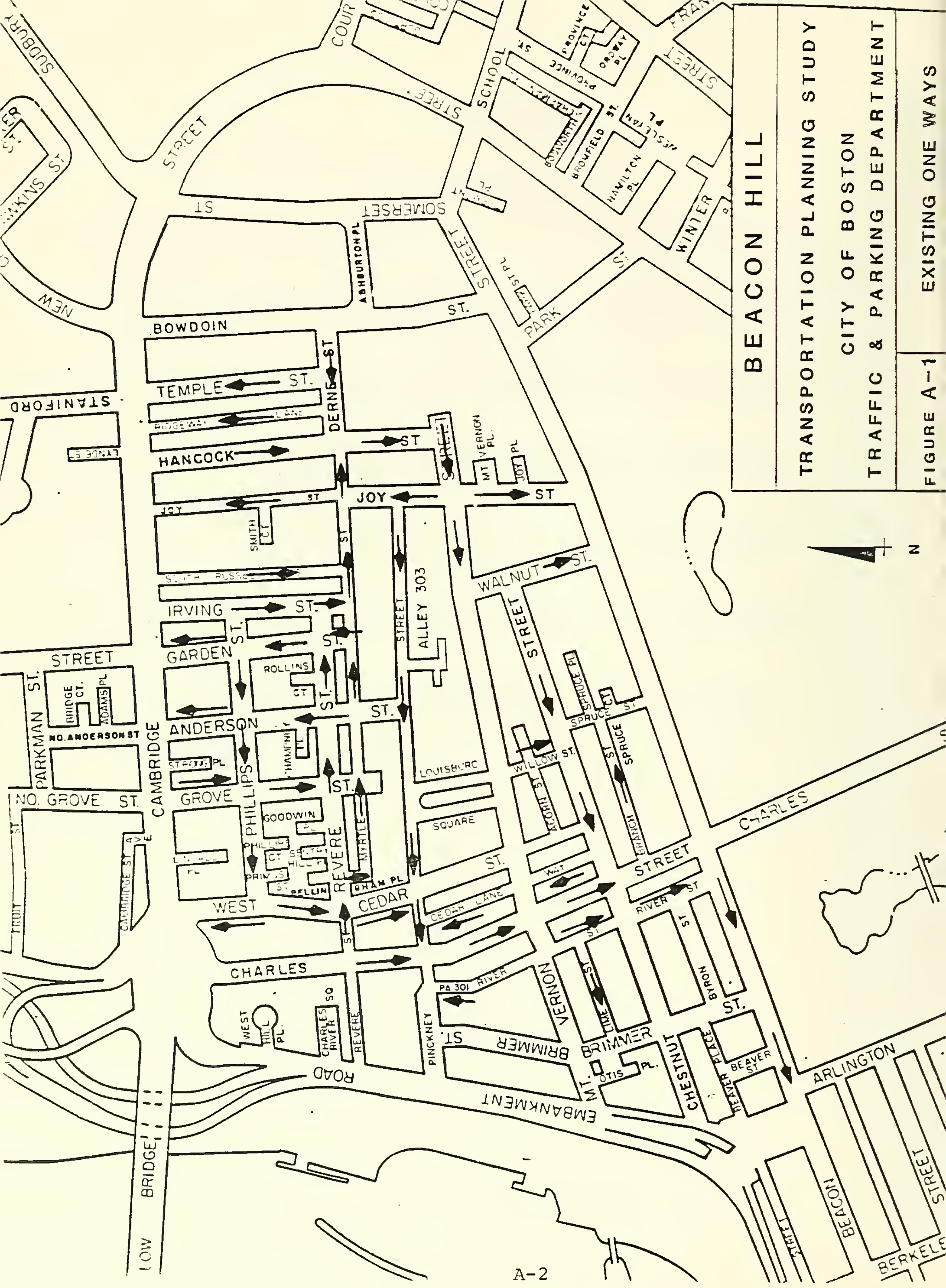
- Traffic Signals - a list of existing signalized intersections, their type and their ownership, followed by a map showing their location.

- Tow Zones - tow zones promulgated by existing regulations are listed, followed by a map which shows their locations.

- Existing Parking Meter Locations - A map shows the location of parking meters as of July, 1984.

- Existing Loading Zones - A map shows the location of loading zones, taxi stands and handicap parking zones as of July, 1984.

- Weather Emergency Arteries - a list of streets on which snow emergency regulations exist.



BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON

TRAFFIC & PARKING DEPARTMENT

FIGURE A-1

EXISTING ONE WAYS

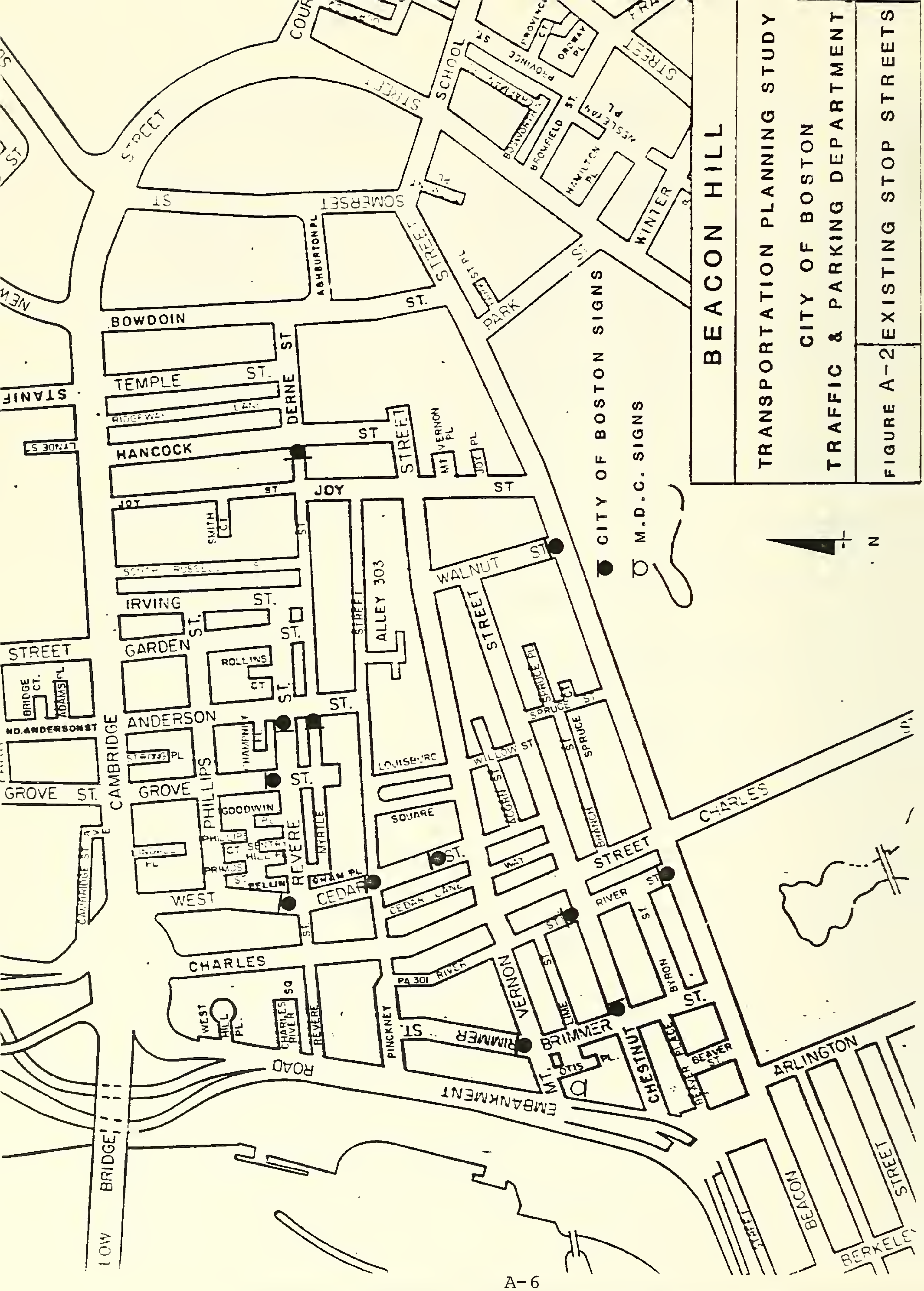
ONEWAY STREETS (as of July 1984)

Anderson Street:	From Revere Street to Cambridge Street
Beacon Street:	From Charles Street to Arlington Street
Branch Street:	From Charles Street to Spruce Street
Brimmer Street:	From Pinckney Street to Beacon Street
Charles Street:	From Boylston Street to Cambridge Street
Chestnut Street:	From Walnut Street to Embankment Road
Derne Street:	From Bowdoin Street to Hancock Street
Garden Street:	From Myrtle Street to Cambridge Street
Grove Street:	From Cambridge Street to Revere Street
Hancock Street:	From Cambridge Street to Mt. Vernon Street
Irving Street:	From Cambridge Street to Myrtle Street
Joy Street:	From Mt. Vernon Street to Beacon Street; From Mt. Vernon Street to Cambridge Street
Lime Street:	From River Street to Brimmer Street
Mt. Vernon Street:	From Hancock Street to Walnut Street
Myrtle Street:	From Revere Street to Hancock Street
Phillips Street:	From Irving Street to W. Cedar Street

Pinckney Street:	From Joy Street to Embankment Road
Public Alley #301:	From Mt. Vernon Square to Pinckney Street
Revere Street:	From Embankment Road to Irving Street
Ridgeway Lane:	From Mt. Vernon Street to Cambridge Street
River Street:	From Mt. Vernon Street to Beacon Street
South Russell Street:	From Cambridge Street to Myrtle Street
Spruce Street:	From Chestnut Street to Beacon Street
Temple Street:	From Derne Street to Cambridge Street
Walnut Street:	From Mt. Vernon Street to Beacon Street
West Cedar Street:	From Phillips Street to Cambridge Street; From Phillips Street to Chestnut Avenue
Willow Street:	From Mt. Vernon Street to Chestnut Street

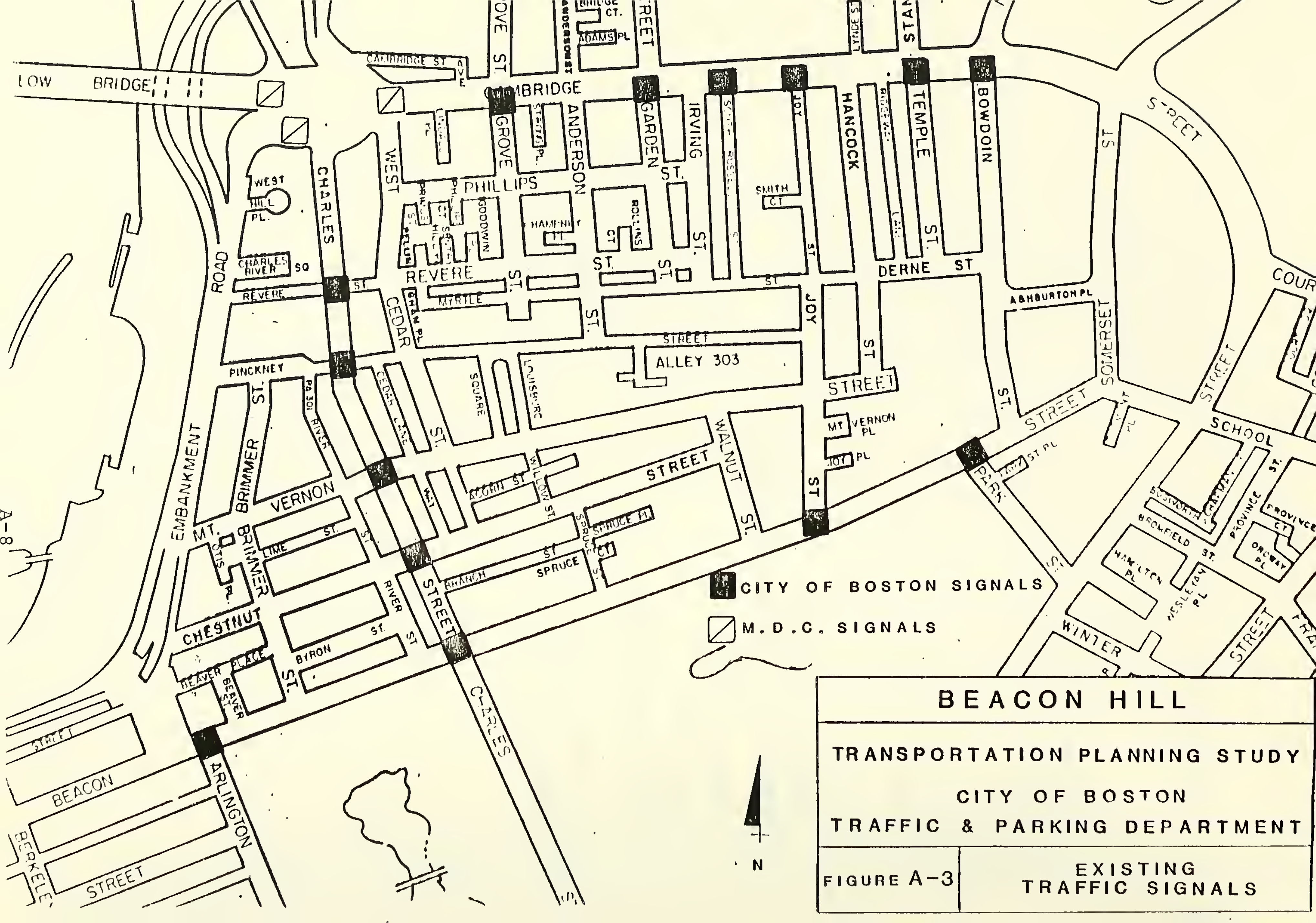
BEACON HILL STREETS - WIDTHS

Acorn Street	15 ft.
Anderson Street	27-30 ft.
Arlington Street	56 ft.
Beacon Street	21-48 ft.
Beaver Street	27 ft.
Branch Street	16-19 ft.
Brimmer Street	25-29 ft.
Cambridge Street	73-96 ft.
Cedar Lane Way	6-10 ft.
Charles Street	40 ft.
Chestnut Street	26-34 ft.
Derne Street	29-40 ft.
Garden Street	26-27 ft.
Grove Street	27-29 ft.
Hancock Street	22-30 ft.
Irving Street	26 ft.
Joy Street	16-23 ft.
Lime Street	20 ft.
Mt. Vernon Street	25-34 ft.
Myrtle Street	11-18 ft.
Phillips Court	23-26 ft.
Pinckney Street	17-27 ft.
Revere Street	20-26 ft.
River Street	19 ft.
So. Russell Street	15-18 ft.
Spruce Street	18 ft.
Temple Street	19-21 ft.
Walnut Street	21 ft.
West Cedar Street	19-24 ft.
Willow Street	15 ft.


BEACON HILL
TRANSPORTATION PLANNING STUDY
CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT
FIGURE A-2
EXISTING STOP STREETS
● CITY OF BOSTON SIGNS
○ M.D.C. SIGNS
N
COURT
SCHOOL ST
PROVINCE ST
PROVINCE CT
ORDWAY PL
CHAPMAN PL
BOSWORTH ST
BROMFIELD ST
HAMILTON PL
WESLEYAN PL
WINTER ST
TREMONT STREET
SOMERSET STREET
ASHBURTON PL
BOWDOIN ST
PARK ST
TEMPLE ST
RIDGEWAY LANE
DERNE ST
STANIFORD
LYNDE ST
HANCOCK ST
STREET
MT VERNON PL
JOY PL
JOY ST
SMITH CT
SOUTH RUSSELL
IRVING ST
GARDEN ST
ROLLINS CT
ALLEY 303
WALNUT ST
ANDERSON ST
BRIDGE CT.
ADAMS PL
NO.ANDERSON ST
STEDMAN PL
CAMBRIDGE
GROVE ST.
GROVE
PHILLIPS
GOODWIN PL
PHILLIPS CT
SENTRY HILL PL
PRIMUS
PELLUN
REVERE ST.
MYRTLE
LOUISBURG SQUARE
WILLOW ST
SPRUCE PL
SPRUCE CT
SPRUCE ST
ACORN ST
BRANCH
CHESTNUT
CEDAR
CEDAR LANE
CHARLES STREET
RIVER ST
WEST CEDAR ST
WEST
CAMBRIDGE ST
CHARLES
WEST HILL PL.
CHARLES RIVER SQ
REVERE
PINCKNEY
PA 301
RIVER
VERNON
MT.
BRIMMER ST
BRIMMER
LIME
BYRON
OTIS PL.
CHESTNUT
BEAVER PLACE
BEAVER ST
ARLINGTON
EMBANKMENT ROAD
LOW BRIDGE
BEACON STREET
BERKELEY
NEW

STOP SIGN LOCATIONS

Beacon Street:	at Embankment Road
	at Joy Street
	at Walnut Street
	at Charles Street
	at River Street
Brimmer Street:	at Chestnut Street
Cambridge Street:	at Garden Street
	at Grove Street
	at Joy Street
	at Temple Street
	at Bowdoin Street
Charles Street:	at Chestnut Street
	at Mt. Vernon Street
	at Pinckney Street
	at Revere Street
Chestnut Street:	at River Street
Embankment Road Near Mt. Vernon:	(MDC)
Hancock Street:	at Myrtle Street
Joy Street:	at Mrytle Street
Mt. Vernon Street:	at Brimmer Street
	at West Cedar Street
Pinckney Street:	at West Cedar Street
Revere Street:	at W. Cedar Street
	at Grove Street



CITY OF BOSTON SIGNALS
M.D.C. SIGNALS

BEACON HILL

TRANSPORTATION PLANNING STUDY

CITY OF BOSTON
TRAFFIC & PARKING DEPARTMENT

FIGURE A-3

EXISTING
TRAFFIC SIGNALS

TRAFFIC SIGNALS

Owned by City of Boston

Intersection of Arlington and Beacon Streets	-	Fixed time, 3 dial	Walk/Don't Walk
Beacon Street:			
Charles Street	-	Fixed time, 3 dial	Red/Yellow
Joy Street	-	Fixed time, 3 dial	Walk/Don't Walk
Park Street	-	Fixed time, 3 dial	Red/Yellow
Charles Street:			
Revere Street	-	Fixed time, 3 dial	Red/Yellow
Pinckney Street	-	Fixed time, 3 dial	Walk/Don't Walk
Mt. Vernon Street	-	Fixed time, 3 dial	Red/Yellow
Chestnut Street	-	Fixed time, 3 dial	Red/Yellow
Cambridge Street:			
Bowdoin Street	-	Fixed time, 3 dial	Walk/Don't Walk
TempleStreet	-	Fixed time, 3 dial	Walk/Don't Walk
Joy Street	-	Fixed time, 3 dial	Walk/Don't Walk
So. Russell Street	-	Fixed time, 3 dial	Walk/Don't Walk
Garden Street	-	Fixed time, 3 dial	Walk/Don't Walk
Grove Street	-	Fixed time, 3 dial	Walk/Don't Walk

Owned by M.D.C.

3 signals at Charles Street Circle

WEATHER EMERGENCY ARTERIES

Beacon Street:
From Bowdoin Street to St. Mary Street

Cambridge Street:
From Staniford Street to West Cedar Street

Charles Street:
From Beacon Street to a point 30 feet south of Silver Place

TOW ZONES

Beacon Street:
From Charles Street to Tremont Street

Charles Street:
From Beacon Street to a point 30 feet south of Silver Place

Hancock Street:
West side, from Cambridge Street to Myrtle Street

Joy Street:
West side, from Beacon Street to Cambridge Street
East side, from Beacon Street to Mt. Vernon Street

Mt. Vernon Street:
South side, from a point seventy feet east to Brimmer Street to Brimmer Street

Myrtle Street:
From Revere Street to Hancock Street

Phillips Street:
South side, from Irving Street to West Cedar Street

Revere Street:
South side, from Embankment Road to Irving Street

Temple Street:
From Cambridge Street to Derne Street

Walnut Street:
East side, from Mt. Vernon Street to Beacon Street

West Cedar Street:
West side, from Cambridge Street to Chestnut Street

APPENDIX B

TRAFFIC DATA

APPENDIX B

TRAFFIC DATA

Some of the available traffic data, located in various files and reports of the City, were collected into this Section of the Report for ease of reference and comparison. It was found that some of the data was collected prior to traffic circulation changes (such as the reversal of Charles Street), and it was necessary to collect some new data. This effort was restricted by budget and personnel limitations, but the data presented in this Report offer a base for discussion of existing circulation matters and for comparisons with changes which may result from implementation of certain recommendations.

Traffic counts were obtained from four sources:

1. Existing files of City and State agencies;
2. Previous reports;
3. Automatic traffic recorder machine placed by the Boston Traffic and Parking Department; and
4. Turning movement counts recorded normally by personnel of the Boston Traffic & Parking Department.

A parking turnover study was conducted by personnel of the Boston Traffic and Parking Department in September of 1984. This purpose of this study was to obtain data regarding the usage of curb space during the day.

Traffic Volumes	Vehicles Per Day	Peak Time Volume
Anderson Street (near Cambridge Street)		
Arlington Street (at Beacon Street)	15,000	1,400
Beacon Street (at Charles Street)	10,000	1,000
Bowdoin Street (at Derne Street)	8,000	800
Brimmer Street (near Beacon Street)	1,400	135
Cambridge Street	18,000	1,800
Charles Street (at Mt. Vernon Street)	6,000	560
Chestnut Street (at Spruce Street)	700	50
Embankment Rd. (at Mt. Vernon Street)	5,000	560
Grove Street (near Cambridge Street)		
Mt. Vernon Street (at firehouse)	3,000	275
Mt. Vernon Street (at Walnut Street)	5,000	500
Pinckney Street (near Brimmer Street)	1,500	150
Revere Street (near Embankment Road)	3,000	300
Spruce Street (near Beacon Street)	200	25
Walnut Street (near Mt. Vernon Street)	2,300	200
W. Cedar Street (near Revere Street)		

CHARLES STREET AND PARKING TURNOVER STUDY

Date Conducted: Wednesday, September 12, 1984

Hours of Survey: 9 am - 6 pm

Study Area: Both sides of Charles Street from Charles Circle to Beacon Street - Beacon Street North Side from Charles Street to Spruce Street and Beacon Street North Side from Charles Street to Brimmer Street

Number of Metered Spaces Available: 142
Number of Loading Zone Spaces Available: 20
Number of Taxi Spaces Available: 6

Total Spaces = 168

Procedure:

With the use of Parking Meter Plans of both Charles Street and Beacon Street, each metered parking space, loading zone space and taxi space was given a number. The number of each space was so designated to conincide with the same number on a chart that was used throughout the survey. Charles Street has always had a history of double parking so that problem was also considered and addressed in this survey. Each space at curbside was also given a space that paralled it; that space was given the same number but preceeded by the letter "D" to designate double parking.

Each half hour two engineers from the Traffic and Parking Department walked both sides of Charles Street from Charles Circle to Beacon Street up Beacon to Spruce Street and down Beacon to Brimmer Street recording plate numbers which were used to determining street usage and also to define problem areas. This procedure was repeated each half hour for nine hours which gave a total of 18 counts.

CHARLES STREET PARKING STUDY

Both Sides	Vehicles	Space %	
1 hr. or less	338	42%	77% of spaces less than
1 - 2 hrs.	283	35%	2 hrs.
2 - 3 hrs.	88	11%	
3 - 4 hrs.	49	6%	
More than 4 hrs.	49	6%	23% of spaces used more
	807	100%	than 2 hrs.

Loading Zones East Side			
1 hr. or less	12	9%	40% of spaces used 2 hrs.
1 - 2 hrs.	20	31%	or less
2 - 3 hrs.	7	16%	
3 - 4 hrs.	2	6%	
More than 4 hrs.	10	38%	60% of spaces used
		100%	2 hrs. or more

Loading Zones West Side			
1 hr. or less	6	22%	44% of spaces used 2 hrs.
1 - 2 hrs.	3	22%	or less
2 - 3 hrs.	0	16%	
3 - 4 hrs.	0	6%	
More than 4 hrs.	3	56%	56% of spaces used
		100%	2 hrs. or more

Double Parking East Side		
1 hr. or less	6	18%
1 - 2 hrs.	7	44%
2 - 3 hrs.	4	38%
3 - 4 hrs.	0	
More than 4 hrs.	0	
		100%

Double Parking West Side		
1 hr. or less	21	66%
1 - 2 hrs.	3	19%
2 - 3 hrs.	0	
3 - 4 hrs.	0	
More than 4 hrs.	1	15%
		100%

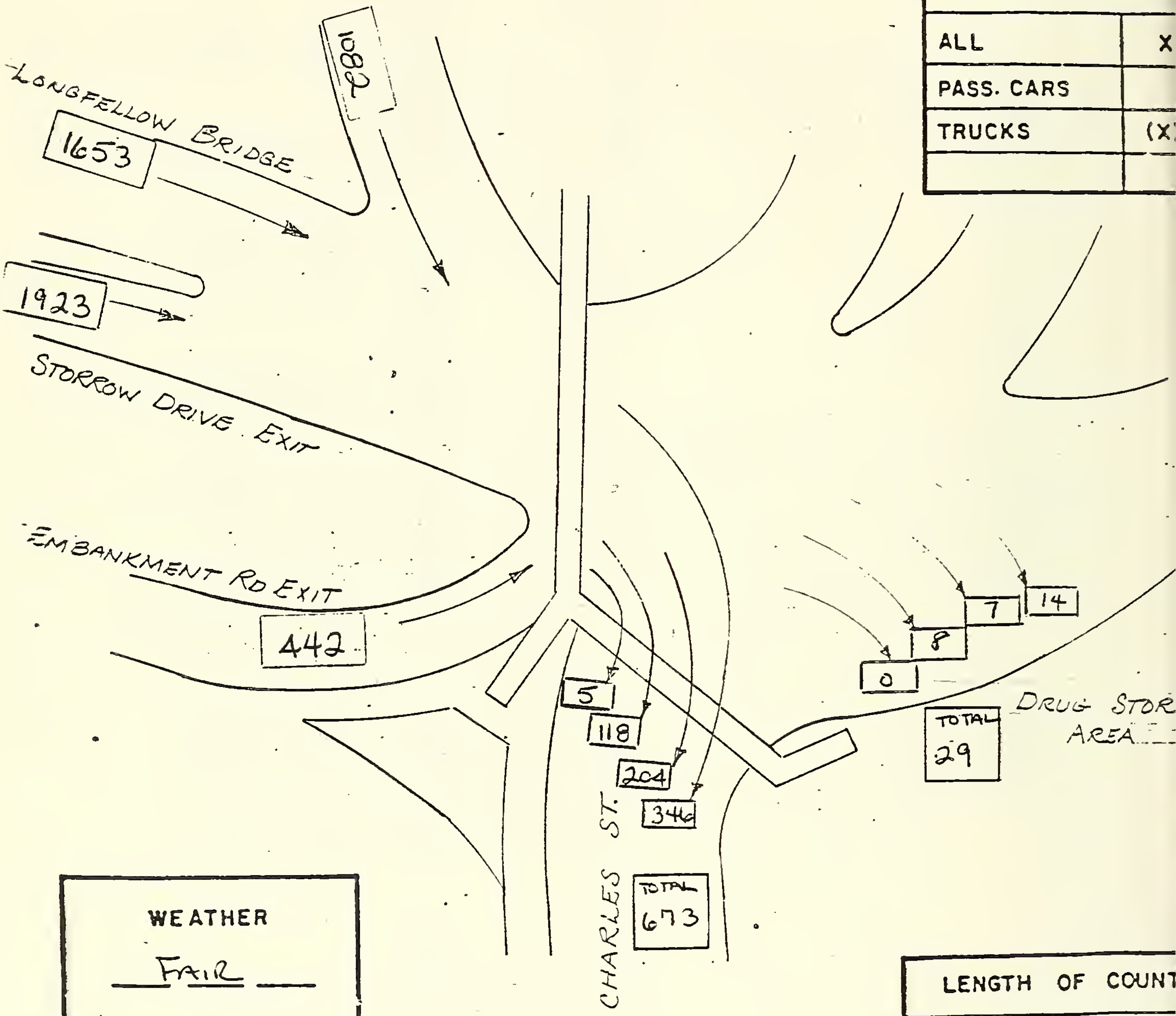
INT. NO.

CITY Boston
INTERSECTION Charles Circle

DATE 9-27-84 DAY OF WEEK THUR

INTERSECTION TURNING MOVEMENT COUNT

VEHICLES COUNTE	
ALL	X
PASS. CARS	
TRUCKS	(X



WEATHER
Fair

COUNT TAKEN BY
RWH

LENGTH OF COUNT	
TIME.	NUMBE OF HOU
6Am-9Am	3HRS

STREET	ENTERING VOLUME	FLOW PERCENT

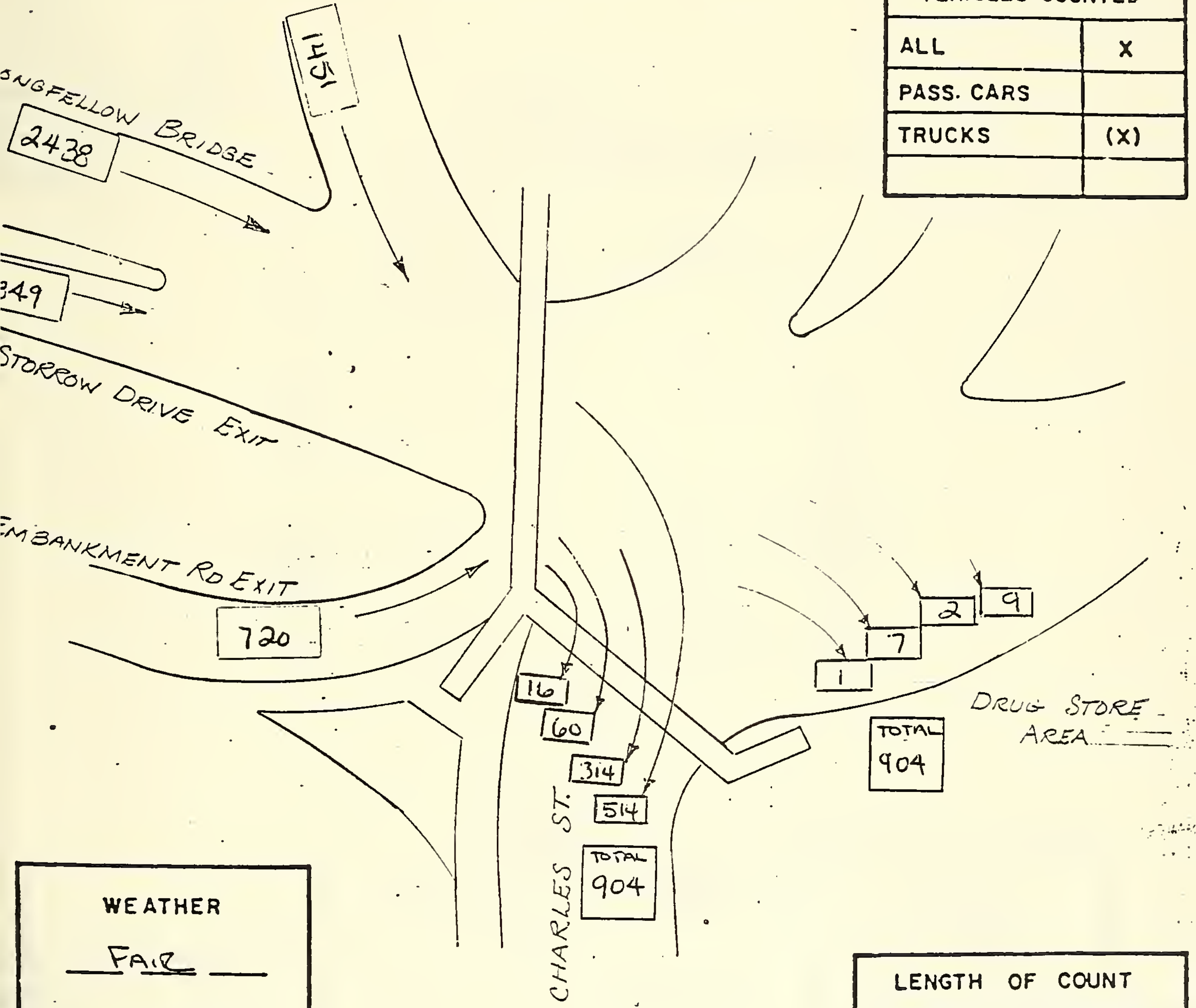
COMMENTS

INT. NO.

CITY Boston
INTERSECTION Charles Circle
DATE 9-26-84 DAY OF WEEK Wed.

INTERSECTION TURNING MOVEMENT COUNT

VEHICLES COUNTED	
ALL	X
PASS. CARS	
TRUCKS	(X)



WEATHER
Fair

COUNT TAKEN BY
RWH

LENGTH OF COUNT	
TIME.	NUMBER OF HOURS
3pm-6PM	3HRS.

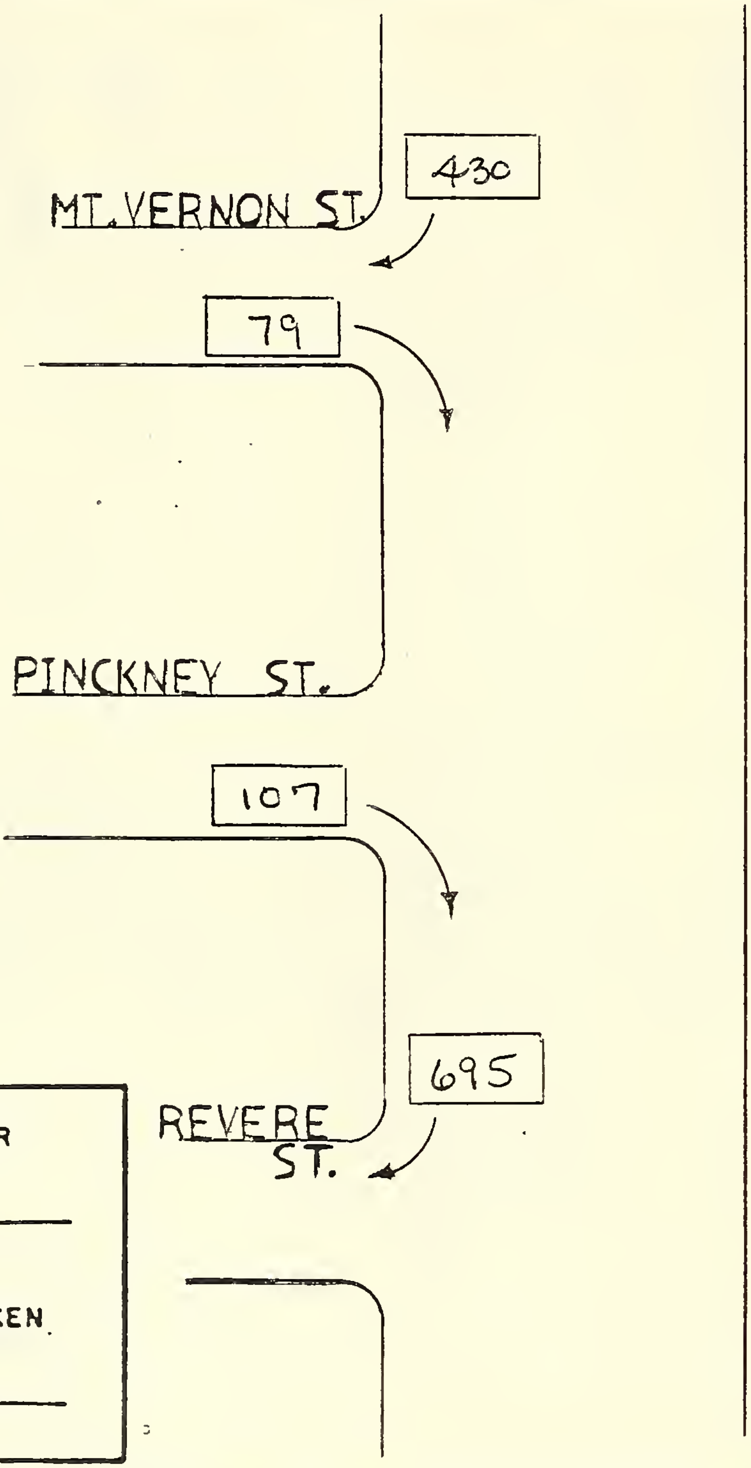
STREET	ENTERING VOLUME	FLOW PERCENT	COMMENTS
TOTAL			

INT. NO.

CITY Boston
INTERSECTION Beacon Hill
Access Streets
DATE 9-27-84 DAY OF WEEK THUR

INTERSECTION TURNING MOVEMENT COUNT

VEHICLES COUNTE	
ALL	X
PASS. CARS	
TRUCKS	(X



WEATHER
Fair

COUNT TAKEN BY
SRV

LENGTH OF COUNT	
TIME.	NUMBE OF HOU
6AM-9AM	3HRS

STREET	ENTERING VOLUME	FLOW PERCENT

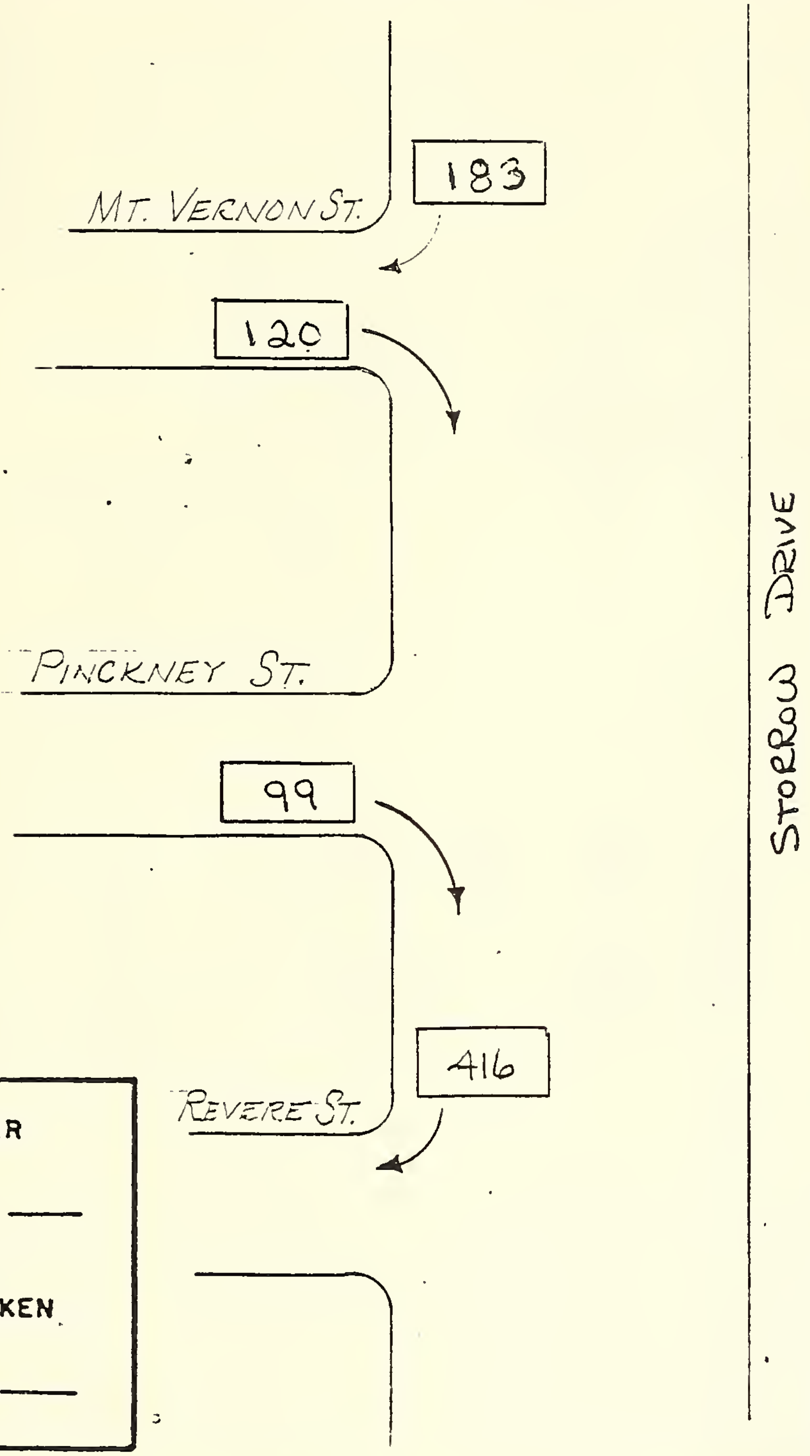
COMMENTS

INT. NO.

CITY Boston
INTERSECTION Beacon Hill Access Streets
DATE 9-27-84 DAY OF WEEK THUR.

INTERSECTION TURNING MOVEMENT COUNT

VEHICLES COUNTED	
ALL	X
PASS. CARS	
TRUCKS	(X)



WEATHER
FAIR

COUNT TAKEN BY
SRV

LENGTH OF COUNT	
TIME.	NUMBER OF HOURS
3PM-6PM	3HRS.

STREET	ENTERING VOLUME	FLOW PERCENT

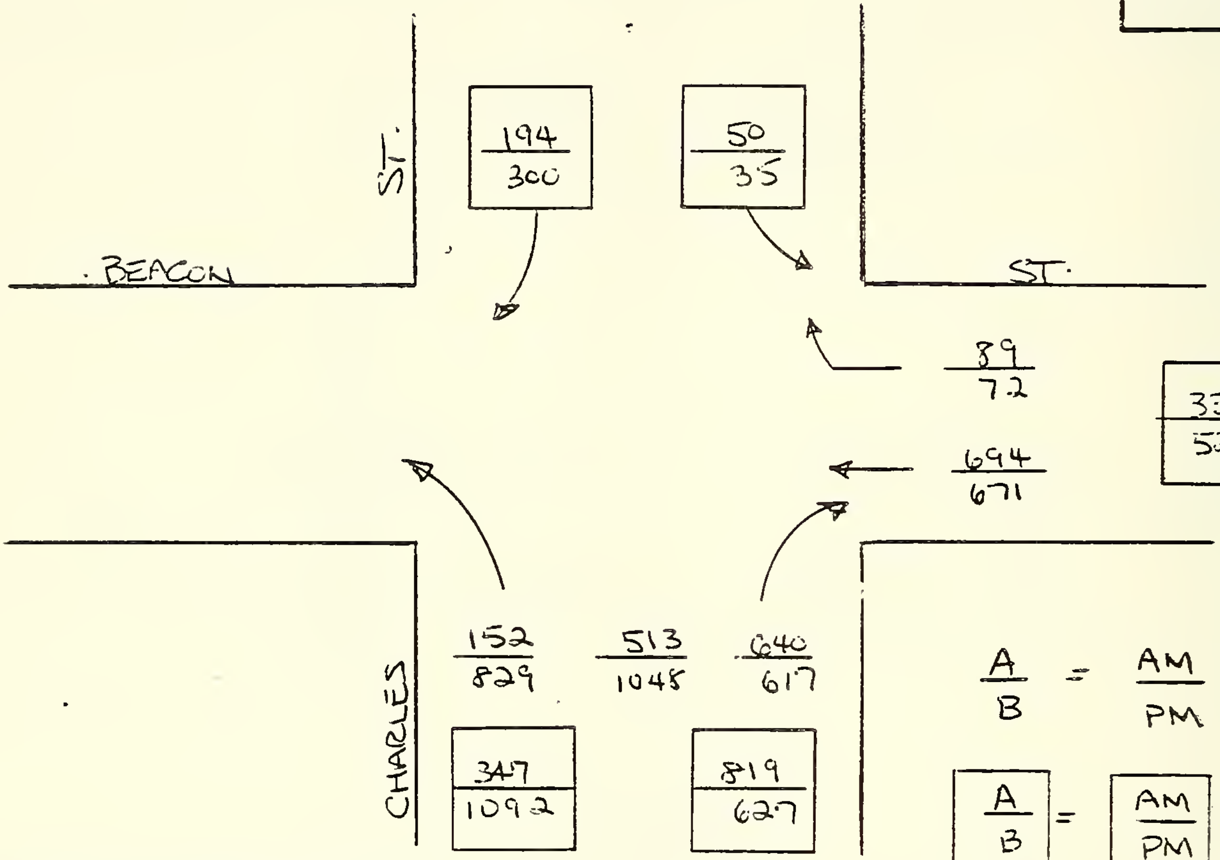
COMMENTS

INT. NO.

CITY Boston
INTERSECTION Beacon St & Charles St.
DATE ____ DAY OF WEEK ____

INTERSECTION TURNING MOVEMENT COUNT

VEHICLES COUNT	
ALL	
PASS. CARS	
TRUCKS	(



$\frac{A}{B}$ = $\frac{AM}{PM}$ 11/7/8

$\boxed{\frac{A}{B}}$ = $\boxed{\frac{AM}{PM}}$ 1/10/8

WEATHER

____ ____ ____

COUNT TAKEN BY

____ ____ ____

LENGTH OF COUN	
TIME	NUMB OF HO

STREET	ENTERING VOLUME	FLOW PERCENT

COMMENTS

____ ____ ____ ____

____ ____ ____ ____

____ ____ ____ ____

APPENDIX C

QUESTIONAIRES

APPENDIX C

Beacon Hill Questionnaire

The Working Committee devleoped a three-page questionnaire designed to elicit community opinion regarding the desires and expenses of a larger group of individuals. Three hundred thirty questionnaires were distributed, sixty to member so the Beacon Hill Civic Association and 270 to the Beacon Hill Business Association (for distribution to merchants in the Beacon Hill ARea). Sixty-five of the questionnaires were returned in time for analysis.

Respondents were asked to be as specific as possible in their answers. The responses were summarized, including the required participated of various City departments for the implementation of each recommendation.

A copy of the questionnaire and the summar follows.

About the same time as this questionnaire was disbributed by the Traffic and Parking Department, another questionnaire was disbributed to merchants only. A copy of that questionnaire and a summary of the responses is also included in the Appendix.

Questionnaire Results:

Beacon Hill Transportation Study

Problem	Recommendation	Department	Short Term	Inter-mediate	Long Term
Traffic and Roadway Considerations 35 Yes, 15 No, 17 NR					
A. Pedestrian:					
* Crossing problems at Charles/Beacon	Add "No turn on Red" sign	T & P	×		
Charles Circle	Physical change in roadway	MDC			×
* More benches, trash barrels	Review locations recommended design and costs	BRA, PWD	×	×	×
* Dog droppings	Residents police themselves	BHCA			
B. Automobile:					
1. Access 52 Yes, 21 No, 4 NR					
* Access to Beacon Hill in general	Reverse some street directors	T & P	×		
* Access to Charles Street at Charles Circle	Signaage and Physical change	MDC	×		×
* Allow U turn at Beacon/Arl./Emb.	Review this proposal				
* Poor signing		MDC, T & P	×		
* Reverse Joy, Walnut, Spruce, Charles	Review	T & P	×	×	
Getting around neighborhood 25 Yes, 21 No, 11 NR			×		
* Vehicles block corners	Upgrade Enforcement	T & P, PD			
* One way streets not enforced	Upgrade Enforcement	PD	×	×	
* Timing of lights at Storrow Drive and Charles Street too short	Review with MDC	T & P, MDC	×	×	

3.	Resident Parking 28 Yes, 12 No, 13 NR				
	* Not enough visitor spaces	---			
	* Residents monopolize VP spaces too long	Residents should police themselves	BHCA		
	* Unclear signing re VP spaces	Review types of VP signs and make consistent	T & P	×	×
4.	Poor Enforcement	Upgrade enforcement - Denver Boot/Tow	T & P, PD	×	×
	* Overzealous Meter Maids	Downgrade enforcement	T & P		×
	* Too many cars	Use Common Garage-Shuttle Service	Residents		
	* Streets too narrow with cars parked on both sides	Reduce rate for B Residents/ Merchants, Limit parking			
	* Cars parked too close to corners	Upgrade enforcement-Police patrols	T & P, PD	×	×
	* Illegal resident stickers	Upgrade sticker issuance procedure	T & P-in process	×	
5.	Commercial Areas 30 Yes, 12 No, 14 NR	34 N.R. 12 R			
	* Not enough parking	* Discounts in Common Garage Angle Parking-Charles Street	T & P		
	* Lack of enforcement/L.Z.	* Heavy ticket/tow	T & P		
	* Double parking	* Heavy ticket/tow	T & P		
	* Unclear signage to Charles	* Upgrade signage	T & P, MDC		
	* Cars parked in L.Z.	* Upgrade enforcement.	T & P		
	* Meters too expensive	* Less expensive meters. Give rationale for meters & fees	T & P		
	* Overzealous Meter Maids	* Downgrade enforcement	T & P		
6.	Intersection Problems 33 Yes, 8, No, 12 NR	30 N.R., 13 No			
	* Signage at Charles-both ends		T & P, MDC	×	×

* Crossing difficult-C/B/C/C	* Provide pavement/lane markings	T & P		
* Need "No turn on Red" at B/C	* Sign	T & P	×	
* Cars parked to close to intersections.	* Upgrade enforcement			
* Several dangerous intersections	* See list, (3) review locations			
* "Stop" sign needed-Grove/Phillips	* Review accident history & sight distance	T & P	×	
* Remove island-B/Charles	* Needs additional data	T & P	×	×
* Remove tree blocking sign at Chestnut/River Street	* Review and resolve	T & P, PtRD	×	

C. Trucks: 24 Yes, 11 No, 16 NR	12 R, 27 NR		
* Double Parking	Enforcement for each problem	T & P, Police	
* Parking on sidewalks	More loading zones	T & P	
* Parking too close to corners	Special hours for deliveries Prohibit large trucks		

D. Taxis: 22 Yes, 17 No, 17 NR	44 NR		
* Not enough	* Meet with Boston Cab Co. to request more cabs & review cab stand.	BHCA, T & P BCBA	X
* Drive too fast	* Enforce speed limits	Police	
* Poor stands			
* Poor access to BH	* Change certain street directions	T & P	×
* Violate one way streets	* Enforcement	Police	

E. Other Modes of Transporation Public Transport.	Use Work-17, Shopping-17, No-27 Rec. 19, Other 5	
* T should be faster and more reliable,		MBTA

* Cars and stations should be cleaner		MBTA		
* Double Decker bus should have access to BH	- Consider this with D.D. Company	T & P	×	×
F. Bicycle Facilities 11 Yes, 28 No, 22 NR				
* Park for a fee	- Consider	T & P		
* Enforce traffic laws	- Upgrade enforcement	Police		
II. Signage Considerations Adequate 24 Yes, 13 No, 18 NR	41 No R. 10 R			
1. Street name signs missing	* Investigate and replace	T & P	×	
2. Parking Regulation signs-adequate	* Color code curbs	T & P		
3. Tow zones-adequate	* Clarify loading zone policy/	T & P		
4. Loading zones	* Print fine on fire lane signs	T & P		
5. Traffic Reg. signs	* Use perpendicular, not parallel, signs	T & P		
6. Too many signs	* Wipe-out regulations on Hill	T & P		
7. Visitor parking signs not consistent	* Review T and make consistent	T & P		
III. Amenities	- At these locations:			
A. Develop small sitting areas 12 Y, 25 No, 14 NR	* Charles/Mt. Vernon * Myrtle/Grove * Charles/Cambridge * 7-11 t Deluca's * Anderson			
B. Trees - Add, remove, prune? 45 Yes, 4 No, 16 NR	- Add * Charles/Cambridge * Another Season Rest*/ * Book Exchange * Chestnut/Mt. Vernon * Anderson			

C. Trash receptacles - Add
40 Yes, 18 No, 17 NR

1. Charles Street 3. Each block
2. Cambridge Street 4. Corners 5. Beacon Street

D. Lighting-Adequate
33 Yes, 8 No

1. More gas lamps

2. Add at Embankment Road
Charles/Common
Beacon/Charles/Arlington

E. Other suggestions:
11 R, 44 NR

* Don't use so much salt (in winter) PWD

* Shopowners should clean own sidewalks

IV. Maintenance Considerations
32 R., 21 NR

A. broken street lights

B dirty streets

C pot holes-Myrtle/Pinckney

D missing bricks
Inadequate plowing

* Restore street sweepers PWD

* Get rid of brick sidewalks or repair PWD

* Repair-resurface PWD

V. Responsibility for
additional cost

14 City

4 Landlord/residents

9 Split between City & Res.

8 Store owners & residents

Questionnaire Prepared by Some Beacon Hill Business People

In October, 1982, the traffic pattern of Charles Street was changed. This is an economic impact survey given only to merchants whe were doing business prior to the reversal.

1) Is your business retail trade only - 16 4 combined
Food service only - 3
service only - 3

2) Has your business experienced an economic downturn since the street was reversed? 11 yes 15 no

3) If so, what percentage of loss? 16 no response - 2 no loss - 8 ranging from 5%-75%

4) Have you noticed more or less vehicular traffic since the reversal? 26 - yes

5) Have you noticed more or less pedestrian traffic since the reversal? 5 more, 16 yes, 6 same

6) Have you experienced any increase in criminal activity since the reversal? 11 yes, 14 no, 1 same

7) Have you had occasion to call any emergency vehicles since the reversal? If so, has the response time been better or worse? 6 worse, better o, same 3, not called 7, no response 10

8) Are you a member of the Beacon Hill Business Association? 21 yes, 5 no

9) Please comment here on any city services for the Street. (Police patroling, handicapped access, street cleaning, ect.)

COMMENTS:

Dirty streets	11	Clean streets	1
Crime & need for more police visibility	9	Good policing	3
No response	7		
Poor handicap access	3	Good handicap access	1
Charles Street direction bad	1	Charles Street direction good	1
Too much ticketing & towing	1		
Parking is a problem/try angle parking	1		
Poor signage	1		
Improve Charles Circle access	1		
Improve rubbish collections			

APPENDIX D

CHARLES STREET ALTERNATIVES

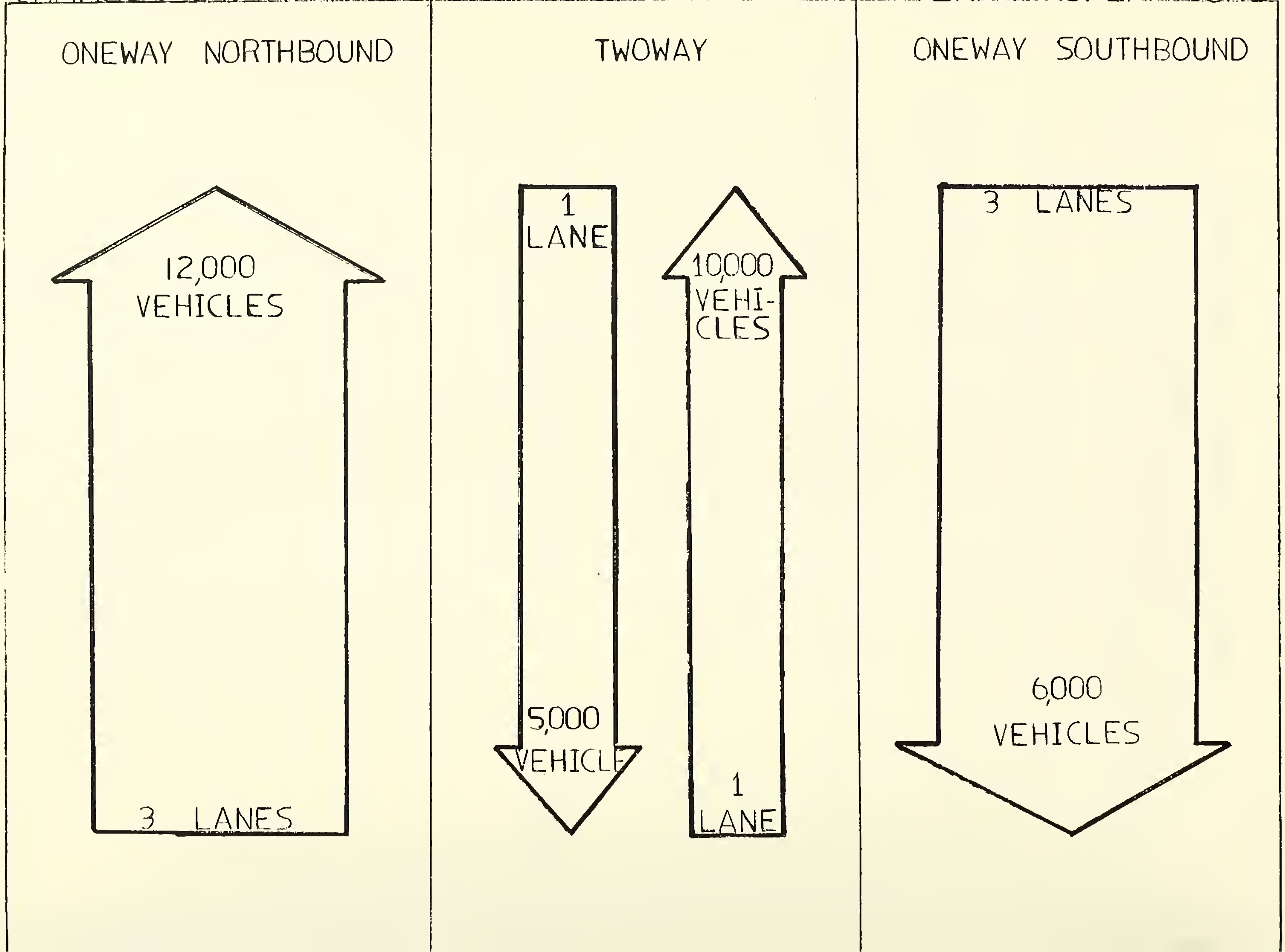
ALTERNATIVE TO CHANGING INTERIOR STREETS*

One member of the Working Committee requested that this report include a minority opinion favoring restoring the flow of traffic on Charles Street to a northbound direction. The following statement in support of that position, and is included here for reference:

> We find that the reversal of Charles Street in the current southerly direction has created an access problem for businessess and residents of Beacon Hill.
>
> The remedies proposed to alleviate this problem include the reversal of interior neighborhood streets. Rather than alter any interior street the following plan is proposed;
>
> Reverse the direction of Charles Street to a northerly direction. Allow a right-turn only at Charles Circle. Allow only taxis and ambulances to turn left at North Grove Street. Allow general traffic to turn left at Blossom St.
>
> Reverse direction of Parkman Street. Possibly reverse the direction of Fruit Street.
>
> Install clearly detailed signs before the intersection of Charles and Beacon directing through traffic to turn left at Beacon for access to Storrow Drive.

*Interior street - any street on Beacon Hill except Charles Street

CHARLES ST. AVERAGE DAILY TRAFFIC UNDER ALTERNATE OPERATIONS



CHARLES STREET ALTERNATIVES

NORTHBOUND/ONEWAY	SOUTHBOUND/ONEWAY	TWO WAY
Vehicles per day: 12,000	Vehicles per day: 5-6,000	Vehicles per day: 15-16,000
Results:	Results:	Results (assumptions):
*Allows access for through traffic (northbound)	*Prevents access for northbound through traffic	*Allows both north and southbound access for through traffic
*Allows access to businesses on Charles Street	*Reduces access to businesses on Charles Street	*Increases access to businesses on Charles Street
*Allows access to neighborhood streets	*Reduces access to neighborhood streets	*Increases access to neighborhood streets for both local and through traffic
		*Reduces number of moving lanes from 3 to 2
Impacts:	Impacts:	Impacts:
*Adds to congestion at Beacon/Charles Street intersection and Charles Circle	*Reduces congestion at Beacon/Charles Street intersection and Charles Circle	*Adds to congestion at Beacon/Charles Street intersection and Charles Circle
*Congestion on Charles Street impedes both vehicular and pedestrian movements at the four intersections	*Improves both vehicular and pedestrian movements at the four intersections	*Impedes both vehicular and pedestrian movements at the four intersections
*Impedes parking maneuvers	*Allows more freedom for parking maneuvers	*Impedes parking maneuvers
*Creates adverse environmental conditions	*Improves environmental conditions	*Creates adverse environmental conditions e.g. air and noise pollution
		*Creates more congestion on Charles Street as a result of added demand for access and reduced vehiclular capacity